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An Economic Survey
of the
Commercial Broiler Industry



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
DIVISION OF MARKETING AND MARKETING AGREEMENTS

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION

An Economic Survey
of the
Commercial Broiler Industry

By

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Division of Marketing and Marketing Agreements
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AN ECONOMIC SURVEY OF THE COMMERCIAL BROILER INDUSTRY

INTRODUCTION

This survey which relates to some of the production and marketing phases of the commercial broiler branch of the poultry industry was inaugurated at the suggestion of the Northeastern Poultry Producers Council during its summer meeting held at College Park, Md., August 1935. A conference of broiler growers, hatcherymen, and dealers, called during this meeting to consider the serious production and marketing problems confronting this industry, resulted in a request by the Broiler Committee of the council for the Poultry Section of the Agricultural Adjustment Administration to extend its cooperation in working out possible solutions.

Before any definite suggestions could be made with respect to the broiler industry's problems, it was felt necessary to develop, by means of a survey, facts and information on the important phases of the production and marketing of winter broilers.

SURVEY OBJECTIVE

The purpose of this survey was to obtain factual information relating to the physical set-up of the several segments of the industry which includes the hatcheries supplying broiler chicks, broiler producers, and marketing groups. It also involved such aspects of production and marketing as the use and extent of credit in purchasing chicks, feed, fuel and equipment, chick costs, quality and mortality of chicks, seasonality of sales, market outlets and distribution, buying practices, grading, and local marketing costs. It was believed that with such information, together with the results of the cost study for broilers conducted by the University of Maryland, possible solutions to some of the broiler industry's problems might be apparent.

AREA SELECTED

As will be brought out later, Delaware, Virginia, and Maryland produce approximately two-thirds of the winter broilers in the United States. The most intensive and highly specialized section of these three States is embraced in the two southern counties of Delaware, four counties on the eastern shore of Maryland in the proximity of Delaware, and Accomac County, Va. This whole area south of

NOTE.—Acknowledgment is made of the assistance and cooperation in the preparation and development of this study given by Austin C. Hoffman, agricultural economist, Division of Marketing Research, Bureau of Agricultural Economics, U. S. Department of Agriculture.

Wilmington, Del., and between the Chesapeake Bay and the Atlantic Ocean, down to Cape Charles, Va., is also known as the Del-Mar-Va Peninsula and will hereinafter be referred to by this name. For the most part, this area has but little elevation, the soil is a sandy loam, the climate mild, and the large eastern markets are easily accessible by numerous paved roads.

METHOD OF SURVEY

The information contained in this report was obtained through questionnaires, county meetings, and personal contacts with members of the industry. In each of the counties in this area committees consisting of broiler producers, hatcherymen, and feed and broiler dealers were established to assist in securing the information desired. In each of the three States the extension poultrymen and county agents aided materially in helping to obtain this information.

LIMITATIONS AND ASSUMPTIONS

It should be brought out at this time that the sample of producers furnishing the information contained in this report is not entirely representative of all producers in this area. This is due principally to the fact that there are many small producers of broilers most of whom do not keep records of their operations or who could not furnish usable information. It is felt, however, that the sample which has been used is as representative as could be secured under the circumstances and without the expenditure of considerably more funds and time than were available.

Portions of this report which deal with hatcheries supplying broiler chicks and local buyers of broilers are not as complete as might be desired. This is due principally to the fact that much of the necessary information was either not obtainable to an appreciable degree from either of these groups or, as was noted in some instances, the information was withheld for various reasons by certain members of these respective groups.

It will be noted that no attempt was made in the survey to obtain production cost information first hand. Such information as is contained in this report is largely drawn from An Economic Study of the Broiler Industry, University of Maryland Bulletin No. 390.

SUMMARY AND CONCLUSIONS

THE BROILER INDUSTRY IN THE UNITED STATES

The three types of broilers are (1) cockerels and occasionally pullets produced on general farms, (2) cockerels produced as a by-product in raising pullets on commercial egg farms, and (3) cockerels and pullets produced commercially as broilers.

Broilers from general farms are produced over a wide area, notably throughout the Middle West, East North Central, Middle Atlantic, and New England States. The bulk of the supply of Leghorn cockerels marketed as broilers from commercial egg farms comes from such farms located principally in the Middle Atlantic, New England, and East North Central States, scattered sections of the Middle

West, and the Pacific Coast States. Commercially produced broilers have their origin largely in the following States: Delaware, Virginia, Maryland, Connecticut, New York, California, Georgia, Pennsylvania, Indiana, and Arkansas.

During 1934 commercially produced broilers constituted approximately 3 percent of the estimated total number of chickens raised in the United States.

THE BROILER INDUSTRY IN THE DELAWARE-MARYLAND-VIRGINIA AREA

It is estimated that approximately 66 percent of the total number of broilers produced commercially in the United States is raised in four or five counties of the Eastern Shore of Maryland, the two southern counties of Delaware, and Accomac County on the eastern shore of Virginia.

The development of the winter broiler industry on the Delaware-Maryland-Virginia Peninsula was due to a considerable extent to the increase in fowl paralysis on commercial egg farms in that area.

The growth of the industry in this area has been most rapid since 1925. In that year the average number of broilers grown per producer was 3,154. In 1935 the average produced was 10,186. It is estimated that there are now approximately 1,200 to 1,500 producers of broilers in this section.

A classification of the capacities of 616 plants showed the following groupings: 98 with capacities of from 2,000 to 2,999; 124 with capacities of 3,000 to 4,999; 119 with capacities of 5,000 to 7,499; 29 with capacities of 7,500 to 9,999; and 75 with capacities of 10,000 to 14,999.

Over half or 55 percent of 74 plants contacted in this survey reported broiler production first in importance as a source of farm income.

For the season of 1935-36, January was the peak month for the number of chicks started for broiler purposes with November second and February third.

BROILER CHICKS

Of the producers contacted through this survey, about 98 percent bought hatchery chicks and 2 percent, did their own hatching. The largest volume of chicks was supplied by Maryland hatcheries. Connecticut hatcheries were second and Delaware third.

The two leading varieties of chickens raised for broiler purposes in this area are Barred Plymouth Rocks and a cross between Barred Plymouth Rock male and Rhode Island Red or New Hampshire females.

An analysis of chick prices by months beginning with August 1934 showed the average price per 100 to be \$8.23 with a gradual increase to December, at which time the average price was \$10.64, after which prices gradually decreased each month with the exception of April, May, and July. Discounts for advance orders and quantity purchases do not play a very important part in the purchase of broiler chicks generally.

For the area as a whole, chick mortality averaged 5.3 percent during the first 2 weeks, and 9.8 percent after the first 2 weeks to marketing age.

CREDIT

Credit plays a very important part in this industry. Of the broiler growers contacted it was found that 45 percent used credit to purchase chicks, 68 percent to buy feed, 13 percent to purchase brooding equipment, 46 percent to purchase fuel, and 15 percent to buy lumber and other building materials. Of the 14 hatcheries reporting on the extent of the use of credit in the sales of chicks for broiler purposes, 11 stated that such sales amounted to from 25 to 90 percent of their total business. The majority of these hatcheries reported better than 75 percent collections on credit sales.

PRODUCTION COSTS

The cost of producing broilers may be roughly divided into out-of-pocket and overhead expenses.

Out-of-pocket costs may be considered to include the cost of baby chicks (raw material), feed and litter, fuel, light, water, disinfectants, and labor.

Feed costs are the most important single item of expense. On 109 farms contacted through the University of Maryland survey, feed costs amounted to 56.7 percent of total production costs. Feed costs per bird appear to be larger on small farms than on large farms.

The cost of chicks on these 109 farms amounted to 23.7 percent of total production costs. The cost of chicks, of course, varies directly with the breed and quality of chick used, and variations in costs are probably in most cases definitely reflected in the income obtained from the broilers.

Labor costs on these 109 farms amounted to 8.2 percent of the total cost of producing broilers. Labor costs per bird were larger on small farms than on large farms.

Miscellaneous costs making up the rest of out-of-pocket costs and including fuel, light, water, and disinfectants amounted to 5.5 percent of total costs.

Total out-of-pocket costs on these 109 farms represented 94.1 percent of the total cost of producing broilers and overhead costs represented 5.9 percent of total costs. A study made by the University of Delaware indicated that overhead costs amounted to 8.3 percent of total costs.

In spite of the small proportion of overhead costs to total costs broiler production per producer has not declined with declining prices, probably because:

(a) Many producers do not know whether or not they are making a profit.

(b) Family labor is very often not considered an item of expense.

(c) Credit conditions may be such that producers can continue operating at a loss for a fairly long period.

The size of the broiler enterprise depends not only on the plant capacity but also on the number of lots of chicks which are brooded. The size of broiler plants in the Del-Mar-Va area varies from a capacity of 500 birds to 120,000 birds. The average capacity of 130 of the plants from which reports were received was 8,771 birds.

The University of Maryland study shows that as the capacities of broiler plants increase costs decrease, an exception being in the case of very large plants.

On an average the full brooder capacity of the broiler plants in the Del-Mar-Va area was not utilized in 1935 to the extent it might have been. In the case of nearly one-third of the plants reporting, the total plant capacity was not used once. Only 19 of the 130 plants operated at full capacity at least two times during the year.

During some periods it may be profitable to make sales even though prices are lower than at some other season of the year because costs show a fairly wide seasonal variation.

LOCAL MARKETING

The survey showed that 83 percent of the broilers were sold to local buyers who in turn hauled them by truck usually to the New York and Philadelphia markets. The remaining 17 percent were sold direct by producers to receivers in the following markets: Washington, 11 percent; Philadelphia, 2.9 percent; Baltimore, 2.6 percent; New York, 0.8 percent; and Wilmington, 0.1 percent.

There are approximately 50 local buyers in this area, half of whom were contacted in this survey. The majority of these buyers are located in Delaware. Buyers located in Delaware, Maryland, and Virginia conduct their buying activities throughout this entire area.

Practically all broilers bought by local buyers are purchased on the basis of the market usually at from 3 to 5 cents per pound below New York quotations. Many of the buyers contacted stated that they should have a margin of 4 cents to cover their expenses and risk.

Truck transportation costs of local buyers varied from 60 cents to \$1 per 100 pounds to New York and from 50 cents to \$1.20 to Philadelphia.

Competition among buyers is very intense. Instances were reported where certain itinerant buyers operated on a margin of from 2 to 2½ cents per pound below the market, out of which margin they would have to defray their marketing costs.

Using the standard coop with an average weight of 50 pounds as a basis, the average shrinkage of broilers for the several terminal markets is as follows: New York, 2.8 pounds, or 5.6 percent; Philadelphia, 3 pounds, or 6 percent; Baltimore, 3.1 pounds, or 6.2 percent; Newark, 4.2 pounds, or 8.4 percent; and Washington, 3 pounds, or 6 percent.

TERMINAL MARKETING OF BROILERS

Costs and practices which center around service charges in the New York market increase marketing costs.

Among such costs and practices are the high cost of labor used in handling live poultry at that market, losses through bad debts which are eventually borne by producers, the absence of a proper inspection service and official grading system, and the lack of a satisfactory method of arriving at the market price.

With the exception of high labor costs, the same practices prevalent in New York are common to the Philadelphia market.

BROILER RECEIPTS AT TERMINAL MARKETS

Data on receipts of live broilers at New York for June 1, 1934, to May 31, 1935, shows receipts from Delaware at 8,637,000 pounds, Massachusetts, 2,599,000, and Connecticut, 2,580,000. Receipts from New Hampshire, Rhode Island, Maryland, and New York follow in importance.

Receipts of live broilers in New York from the general farming area of the country show that most of these shipments come from Missouri, with Illinois and Indiana ranking second and third, respectively.

Live broilers received in New York during the period June 1, 1934, to May 31, 1935, came from 25 States.

In terms of volume received at New York, the New England area and the Del-Mar-Va area were of equal importance as shipping areas.

June, May, and July are the months of highest volume at New York, while October and November are least important.

Del-Mar-Va receipts at New York were heaviest during February, March, December, and April. New England receipts were heaviest during February, June, July, and August, and were spread more evenly over the year than receipts from Del-Mar-Va.

Freight shipments are received principally during July, with August, June, and May next in importance. June is the most important month for express and truck receipts, while October is the least important.

Receipts by freight for the year 1935 were 1,420,769 pounds as compared to 19,342,750 pounds by express and truck.

During May live broilers constituted 25 percent of all live poultry receipts at New York, 25 percent during June, and 24 percent during July.

BROILER PRICES

Broiler prices since 1921 have been declining rapidly, year by year, in relation to prices of other poultry. In early years broiler prices at New York City during certain periods of the year were at least twice as high as fowl prices. In 1935, and also in 1936, broiler prices were only very slightly higher than fowl prices.

This changing relationship between broiler and fowl prices has in all probability been due to the large increase in the production of commercial broilers. It is doubtful if broiler prices in later years will be on a level considerably higher than fowl prices.

Broiler prices are highly seasonal with a decided tendency for prices to be high in the spring of the year. Fowl prices show only a slight seasonal variation, prices in the summer months being somewhat lower than during the rest of the year.

There has been a decided tendency in recent years for this seasonal change to flatten out. During the last 4 years particularly there has been only a comparatively small difference between the lows of broiler prices and the highs.

Prices for fresh-killed western dressed chickens of broiler size are usually quoted during the periods when there are only very small receipts of live broilers by express. During recent years, particularly beginning with 1931, it appears that dressed chickens have been in a better competitive position than formerly in relation to live broilers.

In 1935 Rock-broiler prices were high in relation to the prices of other broilers particularly during the period from March through July. During most periods of the year, Rock-broiler prices tend to determine the level of prices at which other broilers will sell. There were more day-to-day fluctuations in prices of Leghorn and colored broilers in 1935 than in Rock broilers.

In 1935 the top prices of Rock broilers at Washington were lower than prices at New York and Baltimore, although this was not true during winter months. There is a tendency for prices at the three markets to fluctuate similarly. New York prices appear to determine prices at other markets to some extent although prices for 1 or 2 days at any market may be out of line.

CONSUMPTION OF BROILERS

In New York, live broilers are consumed principally in the home. In other markets the consumption in hotels and restaurants constitutes an important outlet. This condition exists because New York has no killing and dressing facilities to serve this type of trade, and because of the competitive price advantage enjoyed in New York by the dressed product. Other markets have the dressing facilities to supply this trade and evidently can successfully compete in prices.

The practice in New York of retailing live poultry with the feathers on makes this poultry unattractive to the consumer. Consumption might be increased if the carcasses were made more attractive and appetizing, and the retail stores more sanitary in appearance.

Jewish dietary laws probably help to maintain New York's live-poultry volume.

GENERAL CONCLUSION

The importance of both the Del-Mar-Va and New England areas in commercial broiler production and the increased production in other areas indicates that, should any marketing or production program be undertaken, both of these major areas would have to participate or the value of a program would be negligible. In all probability, consideration would also have to be given to at least 10 additional States. Lack of a commercial broiler producers organization, existence of several widely separated production areas, and inadequate factual economic material seem to point toward the impossibility of the industry-wide program approach at the present time.

THE BROILER INDUSTRY IN THE UNITED STATES

TYPES OF BROILERS AND SOURCE OF SUPPLY

There are three sources of supply of broilers: (1) Surplus cockerels and occasionally pullets from general farm flocks; (2) surplus cockerels from commercial egg farms; and (3) cockerels and pullets produced commercially as broilers. These three sources of supply are given in the order of their importance so far as the development of this industry is concerned.

In the early days before poultry and eggs were produced commercially to any considerable extent, the majority of broilers were cockerels from general farm flocks marketed principally in the late spring, and throughout the summer months. Such cockerels were a byproduct in the production of pullets to replace the layers of the farm flock. Cockerels from the early hatches usually brought fair prices but as the season advanced and the quantity of broilers increased, prices dropped rapidly.

With the development of commercial egg farms a second source of supply appeared. Here again surplus cockerels produced as a byproduct in the production of pullets are marketed as broilers. The majority of such broilers are Leghorns. As exclusive commercial egg farms increased, the number of Leghorn broilers placed on the market increased correspondingly. The difference in market preference of these two classes of broilers is reflected by a premium being paid in most markets for broilers of the heavier type.

The third source of supply is cockerels and pullets produced commercially as winter broilers and marketed during the winter months in advance of the broiler season for the other types previously mentioned. It is with this type of broiler production that this study is primarily concerned.

FARM-RAISED BROILERS

Referring again to the three general sources of supply, farm-raised broilers are produced in largest numbers in those sections of the country where general farming is most prevalent. The census of 1930 showed that as of April 1 of that year 5,372,597 farms, or 76.9 percent of the farms reporting poultry, had flocks under 100 fowls. This would indicate that the majority of farm-raised broilers come from relatively small flocks but in the aggregate the number marketed would be very large. These broilers are surplus cockerels marketed usually when they weigh from 1½ to 2½ pounds. For the most part, those that are not consumed locally, that is, in nearby towns and cities, are bought by local buyers and shipped to central points where they are marketed either alive or dressed. Broilers of this type appear on the market beginning in April and increase greatly in number as the summer months approach. Using the freight shipments of live broilers to New York City as a basis, July is the peak month for such receipts. Those that exceed the weight limit for broilers are later marketed under dressed poultry classifications as fryers which weigh from 2½ to 3½ pounds, or as roasters which weigh over 3½ pounds each. The breeds most commonly represented are Barred Plymouth Rocks, White Plymouth Rocks, Rhode Island Reds and New Hampshires, Wyandottes, and Leghorns. From the standpoint of farm-raised broilers the latter breed is in the minority.

BROILERS FROM COMMERCIAL EGG FARMS

The second source of broiler supply is young cockerels, usually Leghorns, produced as a byproduct in raising pullets on commercial egg farms and to some extent on general farms where Leghorns are kept. The number of commercial egg farms in the United States in

comparison to the total number of farms keeping poultry is relatively small. Referring to the 1930 census again, only 69,336 or 1.33 percent of the farms reported as keeping poultry have in excess of 400 fowls. Usually 400 to 500 or more fowls on a farm is considered as a commercial enterprise rather than as an incidental branch of general farming operations. The same census shows that farms having in excess of 400 fowls each raised 12 percent of the total number of chickens for the United States. While the percentage of commercial farms and the percentage of chickens raised is comparatively small, the fact remains that the majority of commercial egg farms generally are close to the large centers of population which gives them a competitive advantage in the marketing of their products as compared with farm-raised broilers. This condition carries some weight in determining the effect of Leghorn broilers on the broiler market generally. In spite of the fact that Leghorn broilers are usually quoted at lower prices than are broilers of the heavier breeds raised on farms, such prices are offset to some extent by the following factors:

- (a) Leghorn broilers are more nearly a byproduct of the commercial egg farm than are the heavier farm-raised broilers.
- (b) The proximity of commercial egg farms to the large terminal markets means lower marketing costs than for those broilers shipped from the general farming area of the Middle West.

As a rule Leghorns are hatched a little later in the spring than the heavier breeds; however, due to their more rapid rate of growth they appear on the market at approximately the same time as the heavier broilers. Usually they are not offered for sale for as long a period as are other broilers for the reason that they are not generally acceptable as broilers after they pass 2½ to 3 pounds in weight. Further, the commercial poultryman who, in most cases buys all his feed, markets cockerels as soon as he can to cut feed costs and also to provide more room for the growing pullets.

The majority of commercial egg farms are located in the Middle Atlantic and New England States, the Pacific Coast States, and through scattered sections of the Middle West.

Up to 1934, a number of cars of live and dressed Leghorn broilers were shipped each year from the Pacific coast and from some of the Rocky Mountain States to Chicago and to several of the eastern markets. Since that time, however, such shipments have decreased considerably due to the advent of chick sexing. In other words, many commercial poultrymen, especially on the Pacific coast, now buy only pullet chicks for flock replacement, the males being killed when their sex is determined while they are day-old chicks. This has resulted in a reduction of Leghorn cockerels to a point where most of the surplus broilers of this type are consumed locally.

COMMERCIAL OR FALL AND WINTER BROILERS

Although fall and winter broilers have been produced commercially for a number of years, such production was confined to relatively few producers and the extent of production was comparatively small. As early as 1902, however, it was reported that a commercial broiler plant with an annual output of 100,000 broilers

was located at Sidney, Ohio.¹ How long this plant continued in business is not known. It was not until about 1921, however, that this branch of poultry production started to expand. Such development was due to a combination of conditions. Following the World War, more people generally were developing the habit of "dining out" at hotels and restaurants. This increased patronage stimulated the better class of restaurants to add variety to the menu, and the featuring of broilers during the winter months played a part in the program.

Still another reason contributing to the development of the broiler industry, especially in that area known as the Del-Mar-Va Peninsula, was the outbreak of fowl paralysis on commercial egg farms. The presence of this disease forced many commercial egg producers out of business due to their inability to raise pullets to maturity. As a rule the symptoms of this disease are not observed until fowls are several months old. Thus many of these poultrymen converted their long laying houses into brooding houses and started producing broilers which are usually marketed at from 12 to 15 weeks old, or before paralysis becomes apparent.

EXTENT AND IMPORTANCE OF BROILER PRODUCTION

The agricultural census does not include the number of chickens sold under the several market classifications such as broilers, etc. Further, there is no practical basis that may be used even to approximate the total broiler production in the United States.

As a result of a national survey conducted by the University of Maryland during the fall of 1935 and a similar one made by the Poultry Section of the Agricultural Adjustment Administration, it was estimated that the commercial production of broilers was approximately 16,500,000 birds for the United States during the season of 1934-35. In 1934 the total number of chickens raised, as estimated by the Crop Reporting Board of the Bureau of Agricultural Economics, United States Department of Agriculture, was 537,433,000. Using this as a basis for comparison, the approximate number of broilers raised commercially in 1934-35 was 3 percent of the estimated total number of chickens raised in 1934. This estimate constitutes a fair basis on which to gage the importance of this phase of the poultry industry.

As shown in figure 1, and as disclosed by the national survey referred to above, the principal commercial broiler producing States in the order of their importance are Delaware, Virginia, Maryland, Connecticut, New York, California, Georgia, Pennsylvania, Indiana, and Arkansas. From the estimated number of broilers marketed by States as revealed by the above survey, it is indicated that the States of Delaware, Virginia, and Maryland produce approximately 66.6 percent of the total national production of winter broilers. On the basis of total receipts of live broilers for the period of June 1934 to May 1935 at the New York market, about 47 percent came from Delaware, Virginia, and Maryland. On the basis of truck and express receipts alone for the same period at New York, the receipts from these States were approximately 50 percent of the total.

¹ The Egg Reporter, Dec. 10, 1902.

THE BROILER INDUSTRY IN THE DEL-MAR-VA AREA

DESCRIPTION OF THE INDUSTRY IN THE DEL-MAR-VA AREA

SIZE AND EXTENT OF INDUSTRY

Some of the leaders of the industry estimate that there are approximately 2,000 commercial producers of broilers on the Del-Mar-Va Peninsula. It is believed, however, that this is an over-estimate of the actual number of broiler producers in that area. As the result of a rather intensive study to determine the identity and plant capacity of all such producers located in this section, it was possible to secure the names and addresses of only 637 producers. In view of the

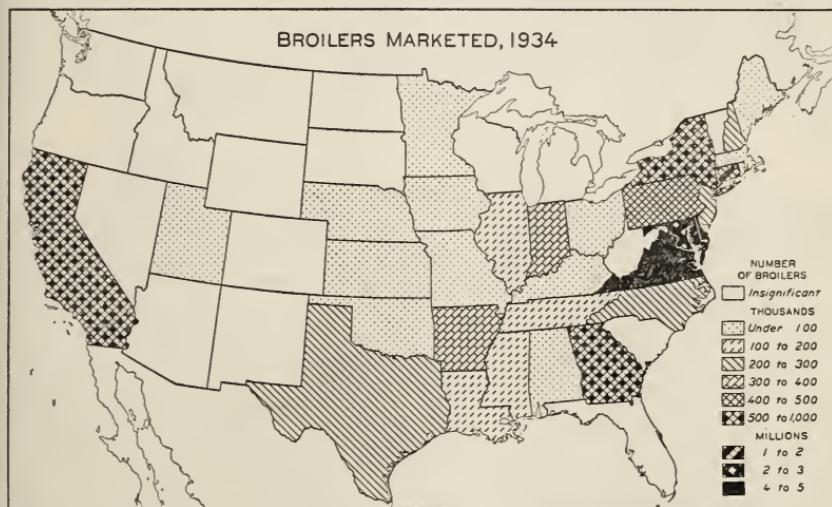


FIGURE 1.—The principal broiler-producing States, based on the approximate number marketed in 1934, are Delaware, Virginia, Maryland, Connecticut, New York, California, Georgia, Pennsylvania, Indiana, and Arkansas.

intensity of this effort and the numerous contacts with producers, chick dealers, feed dealers, and county agents, the actual number of producers probably does not exceed 1,200 to 1,500. The total number of producers in the several counties whose identity and plant capacity was established is as follows:

County and State:	Number of producers
Accomac County, Va	132
Somerset County, Md	43
Worcester County, Md	85
Wicomico County, Md	19
Caroline County, Md	36
Sussex County, Del	297
Kent County, Del	25
Total	637

The 1930 census shows that in the above counties there was a total of 17,022 farms reporting chickens on hand over 3 months old, and 1,197 farms reporting 400 or more chickens on hand over 3 months old. It is appreciated that some broiler plants were not included in

the census for the reason that they might have had no poultry on hand over 3 months of age at the time the census was taken. It will be noted that the number of producers given in the above table constitutes approximately 53 percent of the number of farms raising

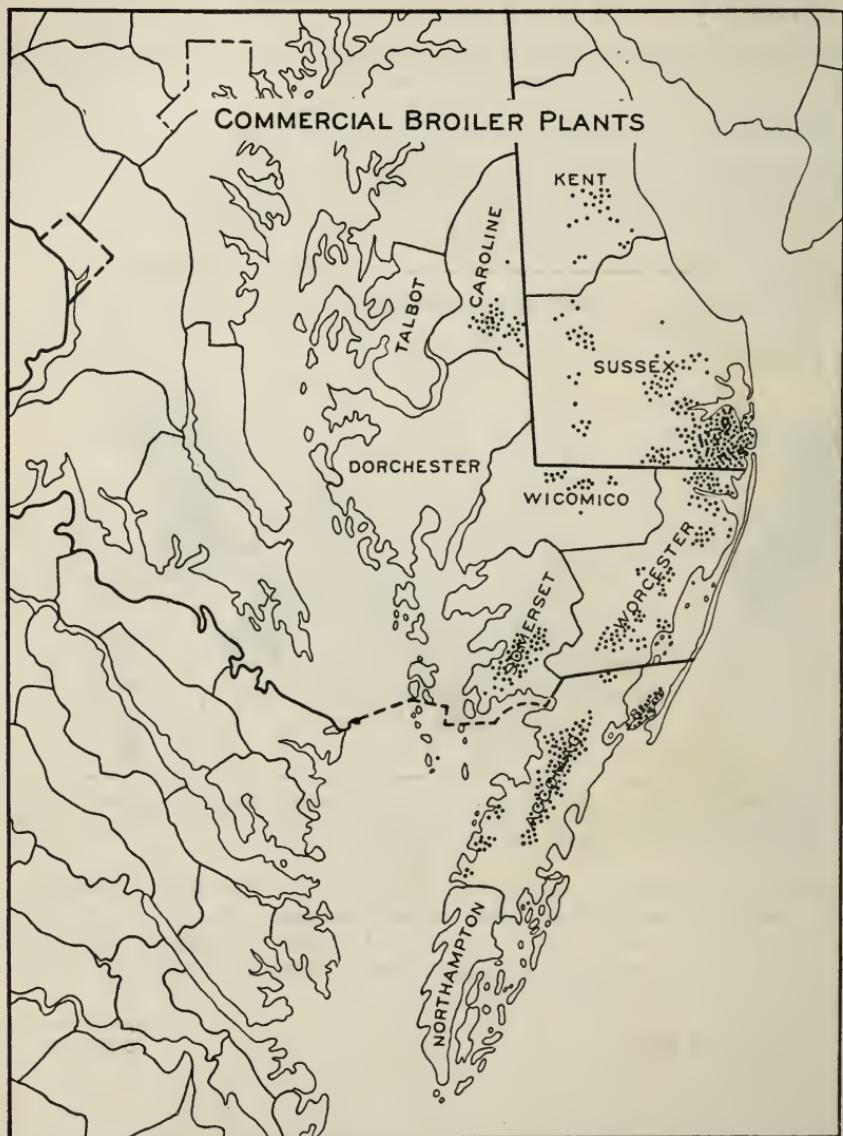


FIGURE 2.—This map shows the approximate location of the commercial broiler plants in the Del-Mar-Va area covered by the survey. Each dot represents one plant. Sussex County, Del., and Accomac County, Va., have the largest number of such plants

over 400 chickens, and about 4 percent of the total number of farms with chickens on hand in this area.

Figure 2 shows the approximate location of the broiler plants in this section. It will be noted that Sussex County, Del., and Accomac

County, Va., are the areas of the largest number of producers. As will be brought out later, however, from the standpoint of volume of production by the States in this section, Delaware is first, Maryland second, and Virginia third. In these counties, as well as the others shown, most of the broiler plants are adjacent to towns and villages or close to good highways, thus facilitating the purchase and delivery of supplies and sale of broilers when ready for market.

RELATIVE IMPORTANCE OF BROILERS AS A SOURCE OF FARM INCOME

Over half, or 55.4 percent, of the plants coming within the scope of this survey reported broiler production first in importance as a source of farm income. From observation and personal contact with the industry, it was found that those who listed broiler production other than of first importance in most instances had relatively small plants. A tabulation showing the relative importance of broiler production as a source of income is given in table 1.¹

GROWTH OF INDUSTRY

From table 2 and figure 3 it will be noted that this industry has experienced a rapid growth during the past 10 years. The figures shown in this table do not represent all of the broilers produced in this area, but serve as an indication of the growth of the industry during the 10-year period beginning with 1925. This growth has taken place despite the fact (as will be brought out later) that broiler prices have quite generally been at lower levels each succeeding year. Table 2 also shows that each year, with the exception of the 1933-34 season, the average number of broilers grown per producer has consistently increased. The growth of the broiler industry is further reflected by comparing the number of eggs produced in relation to the number of chickens raised in the area as shown by the census reports of 1925, 1930, and 1935. This comparison is made for all the principal broiler producing counties as shown in table 3. The comparison shows that for the area as a whole, the number of eggs produced per chicken raised decreased from 3.3 dozens in 1924 to 1.2 dozens in 1934.

SIZE OF BROILER PLANTS

In this survey only those plants with a brooding capacity of 500 chicks or over were considered to be commercial broiler producing units. Furthermore, those farms that produced broilers as a by-product in the production of pullets were not considered as commercial broiler producers for the purposes of this survey.

By capacity, as used in table 4, is meant the total number of chicks that can be brooded at any one time. A relatively small percentage of these producers brood two and sometimes three lots of chicks during the season. Thus a producer with 5,000 capacity may actually produce considerably more broilers during the year than the maximum brooding capacity of his plant. Table 4 shows the classification of broiler plants by capacity throughout the several counties in this area.

¹All tables are given in the appendix beginning on p. 43.

As would be expected, the largest broiler producing county, Sussex County, Del., also has the greatest number of large-capacity plants. Accomac County, Va., the second largest producing county, is also

GROWTH OF THE BROILER INDUSTRY IN THE DEL-MAR-VA AREA, 1925-35*

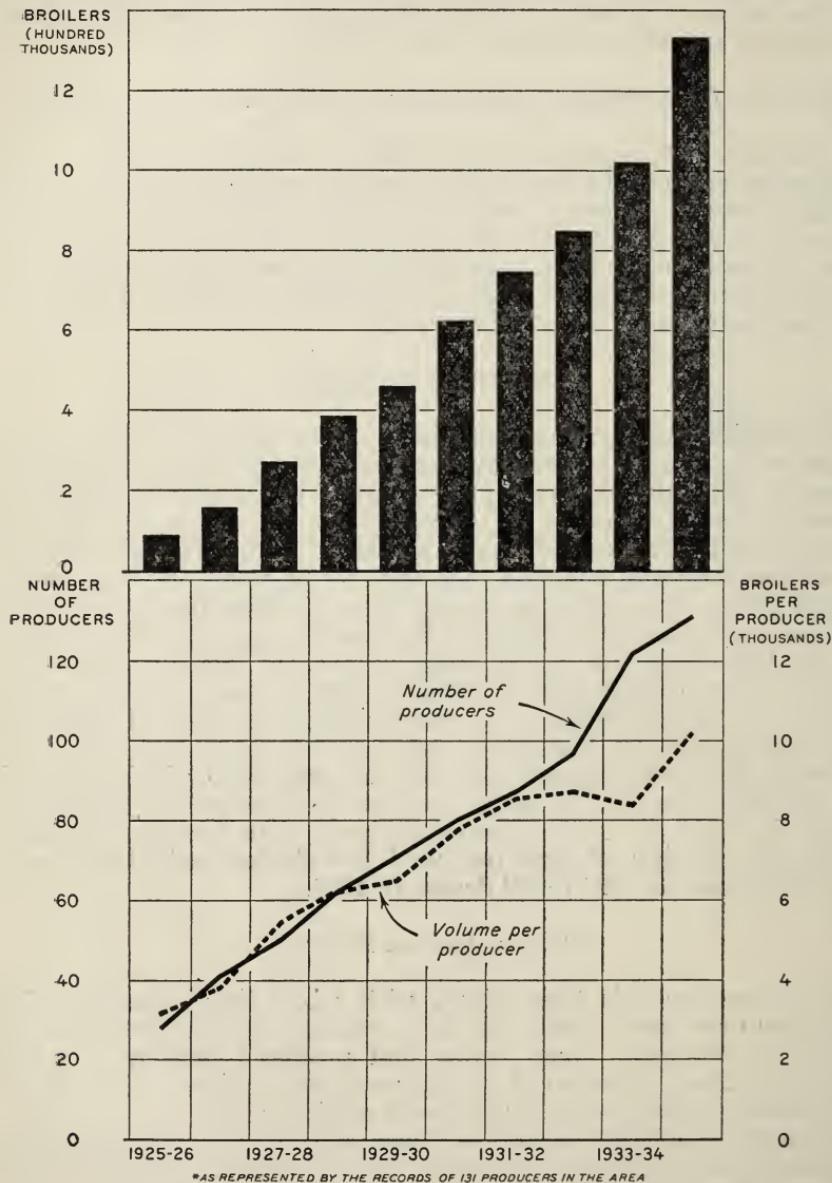


FIGURE 3.—The growth of this industry in the Del-Mar-Va area has been most rapid during the past ten years. The lower portion of the graph shows how the volume per producer as kept pace with the increasing number of producers.

second in the number of large-capacity plants. Within the scope of this survey the majority of plants was found to be in the following capacity groups: 98 with capacities of from 2,000 to 2,999; 124 with

capacities of from 3,000 to 4,999; 119 with capacities of from 5,000 to 7,499; 29 with capacities of from 7,500 to 9,999; and 75 with capacities of from 10,000 to 14,999.

SEASONALITY OF PRODUCTION

This survey was started in October 1935. In order to try to determine the trend of production for the 1935-36 season, a census was taken of the producers contacted in order to secure the number of chicks started monthly beginning with August 1935 and the number they expected to start each month throughout the balance of the season. This information is given in table 5 and shows, by months, the number of chicks started and the monthly percentages of the total for the season. From this standpoint and for this season, January 1936 was the peak month for the number of chicks to be started, with November 1935 second, and February 1936 third.

Information concerning the number of broiler chicks started in 1934-35 as compared to the number to be started in 1935-36 is shown in table 6 and was secured at the same time as that in table 5. Table 6 shows an intended increase for the area of 6.7 percent over the former season. The information in these tables was given to the State extension poultrymen and county agents of this area for circulation among members of the industry. For the area as a whole the previous season's production, especially during the early months of 1935, was somewhat in excess of what the market could absorb at profitable prices to producers.

BROILER CHICKS

BREEDS AND VARIETIES

Practically all the commercial growers in this area produce either of two types of broilers. The first is the Barred Plymouth Rock, and the second a cross-breed known as Rock Cross, produced by breeding a Barred Plymouth Rock male with either Rhode Island Red or New Hampshire females. The first generation of these crosses have a barred plumage similar to Barred Plymouth Rocks and, so it is claimed, have increased vigor, livability, and rapidity of development. Both of these types have enthusiastic supporters among producers. It has been observed, however, that such support is not entirely consistent as it has been found that certain producers will switch from one type to another, depending on their individual results, as well as the price and availability of chicks.

SOURCE OF CHICKS

The highly specialized nature of this industry is reflected by the large number of producers who purchase their chicks from hatcheries and chick dealers. By referring to table 7 it will be seen that 82.9 percent of broiler chicks are bought from hatcheries, and 14.7 percent from dealers or hatchery representatives, or a total of 97.6 percent as against 2.4 percent hatched by broiler producers themselves.

A breakdown as to the location of the hatcheries supplying these chicks will be noted in table 8. By referring to table 9 it is seen that in the Del-Mar-Va area Maryland hatcheries supply the largest number of broiler chicks with Connecticut second and Delaware third. In this connection it should be brought out that a considerable supply of hatching eggs used by Maryland and Delaware hatcheries is obtained from flocks located in the New England States.

PRICES PAID FOR BROILER CHICKS

The variation in prices paid for chicks throughout the season, and the range in prices by months, are shown in table 10. The highest average price per 100 was for December chicks, which month precedes the peak period for starting broilers, as shown in table 5. The widest range in prices per 100 chicks was during March. It will also be noted in table 10 that in August, which is considered the beginning of the broiler season, chick prices increase steadily each month up to December. From January to April prices gradually decline but increase somewhat during April and May. This slight increase at that time is not due to the demand for broiler chicks so much as to the demand for chicks generally for replenishing laying flocks.

The factors of discounts and other concessions for advance orders and quantity purchases do not play a very important part in the general price structure for broiler chicks. As the result of a survey made of hatcherymen supplying broiler chicks, the following information was secured with respect to discounts for early orders:

- Nine hatcheries gave no discount for early orders.
- One hatchery gave 10 percent discount for early orders.
- One hatchery gave 5 percent discount for early orders.
- Two hatcheries gave 1 cent per chick off for early orders.

Quantity discounts were as follows:

- Four hatcheries gave no quantity discount.
- One hatchery gave none for orders under 400 chicks.
- One hatchery gave a discount of 1 cent per chick "sometimes."
- One hatchery gave 10 percent discount.
- One hatchery gave 1 cent per chick.
- One hatchery gave one-half cent per chick for orders of 600 or more.
- One hatchery gave 50 cents per 100 on 500 chicks; up to 15 percent on 5,000 or more.

CHICK MORTALITY

Individual schedules submitted for this survey by producers showed in some instances a mortality as high as 50 percent with certain lots of chicks, while instances of 33 percent mortality were by no means rare. This condition existed in spite of the fact that a large percentage of chicks used for broiler production is from stock tested for pullorum. From observation and through contacts with members of the industry, it was apparent that to a considerable extent this mortality could be attributed to faulty brooding and unsanitary brooder house conditions. Table 11 shows an average of 5.3 percent loss from disease during the first 2 weeks, and from 2 weeks until the chicks were sold as broilers, an average loss of 9.8 percent.

POOR-QUALITY CHICKS

To a certain degree the question of mortality is associated with chick quality. In contacting members of the industry and especially producers and local buyers, frequent references were made to the effect that chick quality has declined. The general contention is that increased competition and lower chick prices have resulted in chicks of poorer quality, that is, less constitutional vigor and vitality. Another belief advanced is that due to the rapid expansion of the industry and increased demand for chicks, quality has been sacrificed for quantity production. To substantiate their claims, the producers cite their increasing mortality and the fact that buyers are becoming more and more reluctant to pay a straight price that is satisfactory to the producer for an entire lot of broilers, due to the high percentage of poor-quality birds. Several local buyers contacted volunteered this same information and cited the resistance they are meeting in the terminal markets due to the steadily increasing percentage of low-grade birds found in broiler shipments.

Since broiler producers are catering to a rather limited market and their product is one where quality is highly important in maintaining a profitable outlet, the matter of quality in chicks is one that should be seriously considered.

CREDIT

Closely associated with prices of broiler chicks is the factor of credit, not only in the purchase of chicks, but in the purchase of feed and other items used in the production of broilers as well.

In the survey previously referred to, taken among hatcherymen producing broiler chicks, and through numerous contacts made with hatcherymen, a common complaint is on the extent of credit for the purchase of chicks demanded by producers. The general contention among hatcherymen in the Del-Mar-Va area is that the practice of buying chicks on credit was originated by hatcherymen in other sections of the country as a means of securing this local business. The basis of such credit is usually that of a 90-day note at 6-percent interest, and, in some instances, a charge of 1 cent additional per chick for those purchased on this basis. Chicks so purchased, therefore, usually cost more than those bought for cash. To overcome this, the practice among producers of demanding an adjustment on their notes as an offset for chicks that die within the early stages of brooding is rapidly spreading.

EXTENT OF CREDIT ON CHICK PURCHASES

From the survey made of the broiler growers in this area, it was found that approximately 45.3 percent of those reporting purchased their chicks on credit. The percentage varies considerably in the several counties in this section almost inversely to the extent of the industry. For instance, in Sussex County, Del., the largest broiler-producing county, the percentage is 39.3. In Accomac County, Va., which is second from the standpoint of production, the percentage is 35.6. In Kent County, Del., and Wicomico County, Md., where production is less extensive, the percentages are 97.1 and 65.4, respectively.

In this connection, an analysis of the extent of credit business done by some of the hatcheries producing broiler chicks shows that of the 14 hatcheries reporting this phase of their business, 11 extended credit on broiler chicks, 2 did not, and 1 did not report on this question. The extent to which credit sales were made by these hatcheries is shown as follows:

One hatchery reported 90 percent of its sales made on credit.
Three hatcheries reported 75 percent of their sales made on credit.
One hatchery reported 50 percent of its sales made on credit.
One hatchery reported 35 percent of its sales made on credit.
One hatchery reported 30 percent of its sales made on credit.
Three hatcheries reported 25 percent of their sales made on credit.
One hatchery reported 8 percent of its sales made on credit.

The majority of the hatcheries reported a high percentage of collections on credit they extended. The results of seven hatcheries giving this information are as follows:

Three hatcheries reported 100 percent collections.
One hatchery reported 98 percent collections.
Two hatcheries reported 95 percent collections.
One hatchery reported 75 percent collections.

Additional charges per chick made for those bought on credit were reported by hatcheries as follows:

Two hatcheries charged 1 cent more per chick.
One hatchery charged one-half to 1 cent more per chick.
Two hatcheries charged one-half cent more per chick.
Three hatcheries made no additional charge in price.

CREDIT FOR PURCHASE OF OTHER ITEMS

Credit plays a still further part in this industry in the purchase of items other than chicks. For instance, the survey showed that such items as feed, brooding equipment, building materials, and fuel were also purchased on credit. Table 12 shows the percentage of producers using credit for these items as well as in the purchase of chicks. It will be noted the greatest percentage of growers purchase feed on credit with fuel second and chicks third.

The general and apparently increasing use of credit in a highly specialized business such as this, where the margin of profit is small, the season of profitable production relatively short, competitive influences great, and where the market for the product is rather limited, is a factor deserving of a great deal of consideration. Furthermore, the ease with which credit can be secured has probably been responsible to a certain degree for the rapid expansion of this industry in this area.

PRODUCTION COSTS

As indicated previously, the commercial production of broilers in the Del-Mar-Va area has had a mushroom-like growth since 1925. A large part of the expansion has been made without adequate consideration to production and marketing problems. Cost factors, particularly, have not been given careful consideration in the expansion of this industry. Many producers started operating on a small scale and when they found at the end of the season that they had made money, they increased the size of their operations the

following year. Other producers saw that their neighbors had made money producing broilers and they in turn decided to try this business.

No attempt has been made in this survey to obtain information relating to the cost of producing broilers. Permission, however, has been obtained from the University of Maryland to use the information this institution secured from the producers in Maryland, and much of the following material is based on this study of operations during the 1935 season.²

DIVISION OF COSTS

The cost of producing broilers can be roughly divided into out-of-pocket and overhead expenses. The significance of this division is that if the former is large in relation to the latter, immediate losses will be sustained if prices of broilers drop. Theoretically at least, these losses would result in immediate curtailment of production. If overhead expenses are large in relation to out-of-pocket costs, then periods of low prices will be weathered without the immediate necessity of cutting down on production. If out-of-pocket costs represent the greatest portion of total costs, then it will not pay broiler producers to use the capacity of their plants to the limit unless prices received for their product are favorable.

Out-of-pocket costs may be considered to include the cost of baby chicks (or raw material), feed and litter, fuel, light, water, disinfectants, and labor. There might be some question as to including labor as an out-of-pocket cost since, on specialized plants, the family labor or permanent help could not be used in connection with any other enterprise and the expense would continue even if no broilers were produced. However, in the majority of instances, labor costs will vary with the number of broilers raised and the help will be used for some other purpose if broilers are not raised. It is therefore included as an out-of-pocket cost.

FEED COST

Feed cost is the most important single item of expense. It varies widely from one broiler plant to another, depending on the extent to which the feed supply is home-grown, the type of broilers raised, the kind of feed used, etc. For the 109 farms used in the study made by the University of Maryland, feed cost amounted to \$2,108.75 per farm. The total cost of producing the broilers, but not including marketing, amounted to \$3,718.97. Feed cost, therefore, represented about 57 percent of total costs on these 109 farms. A study made by the University of Delaware covering the cost of producing broilers on 80 farms in 1931, 1932, and 1933, showed that feed cost amounted to 51.6 percent of total costs.

In the study of Maryland broiler operations, it was found that as feed cost increased from 20 to 34.9 cents per bird, income and cost per bird also increased. But as feed cost per bird increased, costs became relatively greater than income per bird and the profit became

² "An Economic Study of the Broiler Industry", by P. R. Poffenberger, S. H. DeVault, and A. B. Hamilton, Bulletin No. 390, January 1936.

less. It was also found that feed cost per bird was highest on the farms having the smallest number of birds. When feed cost was compared with the size of the flocks, high feed cost was definitely associated with small flocks. In flocks where the feed cost was less than 19.9 cents per bird there were 8,880 birds per farm, but on farms where the feed cost was 35 cents and over per bird there were only 2,577 birds raised.

CHICK COST

The cost of chicks is the next most important item of broiler costs, amounting in the case of the 109 Maryland farms to 23.7 percent of total costs. This item of expense also varied widely between farms, in the case of 20 of the 109 farms being less than 8.9 cents per chick, and in the case of 11 of the farms amounting to 13 or more cents per chick. The cost of chicks, of course, varies directly with the breed, the type of chick used, and the time of the year purchased. Furthermore, variations in costs are probably, in most cases, definitely reflected in the income obtained for the broilers, either directly through higher prices or indirectly through a more rapid or better maturity.

LABOR

The third most important item of broiler costs is labor expense. In the case of the 109 Maryland farms, this amounted to \$304.50 per farm or 8.2 percent of the total cost of producing broilers on these farms. The Maryland study indicated that farms with the lowest labor cost per bird showed the lowest total cost and the largest profit per bird. As the labor cost per bird increased, the number of birds per farm decreased, indicating the more efficient use of labor with the larger flocks. Farms which averaged 11,046 birds had a labor expense of less than 3 cents per bird, while farms averaging 1,689 birds had a labor expense of over 9 cents per bird.

MISCELLANEOUS COSTS

The other items of out-of-pocket costs are general expenses which consist of fuel, light, water, and disinfectants. For the 109 Maryland farms these amounted to \$206.09 per farm or 5.5 percent of total cost.

Therefore, it is found that total out-of-pocket costs including labor amounted to \$3,501.62 per farm, or 94.1 percent of the total cost of producing broilers.

Overhead costs as represented by taxes, interest on investment, depreciation, repairs, and insurance amounted to only \$217.35 per farm, or 5.9 percent of the total cost. These costs amounting to \$2.64 per 100 birds, or 0.9 cents per pound, are comparatively fixed and would probably continue in a large measure regardless of the number of broilers raised. The study made by the University of Delaware of 34 farms in 1931, 38 farms in 1932, and 8 farms in 1933 showed that use of buildings represented 5 percent of the cost, use of equipment, 2.4 percent, and use of land, 0.9 percent of total costs, making a total of 8.3 percent.

From this indication that overhead costs in the commercial broiler industry represent only from 6 to 8 percent of total costs, it would be assumed that the production of broilers fluctuates inversely with the price of broilers. This, however, has not appeared to be the case

from the information collected by the Poultry Section regarding the growth of the broiler industry and the analysis of broiler prices. Probably several things are responsible for the fact that the production of broilers has not been dependent on prices. In the first place, producers may continue operating for a long period at a loss if they fail to realize they are not making money or if they feel conditions may be reversed in the future. They also may not include their own and family labor as an item of cost. In other words, they are living on their wages and assuming that the unexpended part of their wages is their profit or that they are not operating at a loss because they are breaking even.

The extending of credit to broiler producers is another reason, of course, why they can continue to operate even in the face of losses. Feed dealers, hatcheries, and others anxious to get more and more business are willing to extend credit and count many credit losses in as a cost of operation.

COSTS IN RELATION TO SIZE

In spite of the fact that overhead costs are only a small part of total costs, the size of the broiler enterprise is an important consideration on costs. In the Maryland study feed, labor, and fuel costs were all lower for the larger plants than for the small ones. Also, the equipment and houses for a plant with 10,000 capacity would not cost proportionately as much as for one with only 1,000 capacity.

The size of the broiler enterprise depends not only on the plant capacity but also on the number of lots of chicks which are brooded in any one season. Since it requires only 12 weeks to raise chicks to broiler marketing size, it presumably would be possible to produce 4 lots of chicks within a year. However, in general practice, no more than three lots of chicks are raised, and in most instances broiler producers confine themselves to one or two lots to be produced for sale during the period when broiler prices are most advantageous. If the first lot of chicks is brooded before the beginning of the year, the operator generally is in a position to market these birds and fill his houses with a second lot of chicks which also can be marketed before July when broilers from general farm flocks are being received in large quantities.

The size of commercial broiler plants in the Del-Mar-Va area was found through this survey to vary from a capacity of 500 birds to 120,000 birds. The average capacity of 130 of the plants from which reports were received was 8,771 birds. It is probable that this is somewhat larger than the actual average capacity of plants in the Del-Mar-Va area, since only a small proportion of the smaller plants reported on their operations.

In the Maryland study, cost figures from 109 farms during the 1935 season indicated that the number of birds raised per farm was an important factor in relation to the profitability of the enterprise. Table 13 taken from the Maryland survey shows the relation of the size of the flock to the gross income from operations based on these 109 farms.

Table 13 appears to indicate that costs are lowest for the three groups of producers who raised from 5,000 to 19,999 birds, and that profits are largest for the two groups which raised from 5,000 to

14,999. However, these cost figures represent total expenses including the cost of chicks, and therefore it is not certain that changes in cost are necessarily related to changes in the size of flocks. It is possible that the majority of the group of producers raising 20,000 or more birds had unusually high mortality, higher than average costs, or sold their broilers on a low market during the period covered by this survey. It is not possible to place too much reliance on the figures for average profit per bird, since these figures will tend to vary depending upon the accuracy and completeness of reports from various producers and their methods of determining cost and profit. It is difficult to place too much significance in these figures since they are averages of several plants and there is no indication as to the extent to which particular plants deviate from these averages.

EXCESS PLANT CAPACITY

As a general rule it does not appear that the brooder capacity of the broiler plants in the Del-Mar-Va area even approached maximum capacity use in 1935. There are indications that approximately 50 percent more broilers could be produced in this area than were produced in 1935 without increasing the per broiler capacity. This would require using the brooder capacity of plants only twice during the year. The capacity of 130 plants from which reports were received was 1,140,200 chicks and this capacity should permit the production of 2,280,400 birds without overcrowding. However, in 1935, when more broilers were raised than in any other year on record, only 1,517,461 birds were produced. In the case of 42, or nearly one-third of the plants reporting, the total plant capacity was not used. That is, for each 100-chick capacity, less than 100 chicks were brooded. Only 19 plants produced two or more times the capacity, while the bulk of producers used their capacity between one and two times. There appears to be no significant relationship between the size of the enterprises and the efficiency of plant operation as determined by the use of brooder capacity.

SEASONAL COST OF PRODUCING BROILERS

The section of this survey which deals with prices shows that there is only a relatively short period of the year when broiler prices are high. However, producers need to consider not only the seasonal variations in prices but also the seasonal variations in costs. During some periods it is profitable to make sales even though prices are lower than at some other season of the year. In an earlier part of this survey it was seen how the cost of chicks varies from month to month during the year.

The Maryland study shows that the costs of fuel, labor, and feed are all lower for summer broilers than for winter and fall broilers. Labor and feed costs are lower for fall broilers than for winter broilers. In the Maryland study the statement is made that, "Assuming that all other factors are equal, with the average number of broilers per farm being 8,231, the net profit for fall broilers would be increased \$78.19 per farm over winter broilers, and the net profit for summer broilers would be increased \$419.78 per farm over winter

broilers." Of course, all other factors are not equal, particularly because of the seasonal variation in prices.

Table 14 from the Maryland study shows the comparative cost of producing broilers seasonally.

MARKETING BROILERS (LOCAL)

The large majority of producers in the Del-Mar-Va area sell their broilers to local dealers who subsequently ship them, usually in their own trucks, to the large city markets. This survey shows that 82.6 percent of the broilers were marketed in this manner. The remaining 17.4 percent were sold by the producers direct to receivers in the following markets: Washington, 11 percent; Philadelphia, 2.9 percent; Baltimore, 2.6 percent; New York, 0.8 percent; and Wilmington, 0.1 percent. Further information in this connection is given in table 15.

There are approximately 50 local dealers or buyers of broilers in this area. Direct personal contacts were made with 25 of them to secure such information as would be needed to complete this survey. Many of these dealers are located in or near the centers of greatest broiler production. The greater portion of their business is devoted to the marketing of broilers during the winter and spring months and to dealing in other types of poultry such as fowl and turkeys during the summer and fall.

These dealers do not confine their buying to their own communities or States. It is not uncommon for Delaware dealers to buy broilers in Maryland or Maryland dealers to buy Virginia-raised stock. The buying of broilers has developed into a highly competitive business, some aspects of which will be touched upon later.

MARKET OUTLETS AND VOLUME HANDLED

Notwithstanding the fact that the local dealers were contacted directly, it was extremely difficult to secure even a fair estimate of the volume of broilers marketed for the past season or the preceding 5 years. Many of these dealers could give only rough estimates, due to their failure to keep accurate records, while others were reluctant to give out such information. It was found, however, that the majority of these dealers sold on the New York market with Philadelphia second. Other markets supplied in approximately the order named were: Baltimore, Md.; Washington, D. C.; and Norfolk, Va.

BUYING PRACTICES

Practically all broilers bought by local dealers are purchased outright from the producer on the basis of the New York market. The prices paid the producer range from 3 to 5 cents below the New York market price quoted at the time bought. The variation in this margin depends on such factors as extent of competition among buyers, condition of the market, and finish and quality of the lot of broilers being purchased. Many of the buyers contacted stated that they should have a margin of 4 cents to cover their expenses, risk of a lower market price at time of delivery, and profit. This is more particularly true in the case of purchases for the New York

market than for the Philadelphia market as the haul to New York is longer and terminal marketing costs are greater. Out of this margin the buyers have to defray their hauling cost, commission, coopage charge (this charge applies to the New York market only), and their profit. Likewise, the factor of a declining market has to be taken into consideration. These several phases are covered in greater detail further in this survey.

MARKETING COSTS

All the dealers in this area, so far as could be learned, ship broilers to the terminal markets by trucks. Transportation costs vary depending, of course, on the distance to market. Such costs to the New York market range from 60 cents to \$1 per 100 pounds, and to Philadelphia from 50 cents to \$1.20. Buyers located in Delaware frequently go to the lower Maryland and Virginia counties to buy a load of broilers. This practice necessitates their doubling back over the same territory, thereby adding considerably to their transportation costs as compared to such costs on a load of broilers from Delaware, for instance, to the same terminal market. Buying in this manner, due to increased costs, is usually done only when the chances for a rising market are favorable, or in order to secure a full load before starting to market.

Reference already has been made to what might be termed keen competition among buyers. This is not true to such a great extent among established buyers as it is between such buyers and itinerant buyers, also known as "in and outers." These buyers own or rent trucks used for various kinds of hauling. When there is a slump in other types of hauling and broilers are moving to market, they enter the field as broiler buyers and in some instances buy on a smaller margin than is usually asked by the established buyer. This compels the established buyer to lower his margin in order to get his share of the business. Some instances were reported where certain buyers had offered the producer a price of 2 to $2\frac{1}{2}$ cents below the market. It is obvious that with so small a margin the buyer would have difficulty in making his expenses, other things being equal and assuming, of course, that the scales on which he did his weighing were accurate and that other questionable practices were not carried on.

Such competition has been a contributing factor toward more critical buying referred to previously under the section of this survey entitled, "Poor quality chicks." It necessarily follows that with a narrow handling margin, and most especially when the broiler prices are fluctuating or declining, the buyer must be sure of generally uniform good quality in the broilers purchased. This has brought about a practice which apparently is growing, namely, that of the buyer offering a top price for the better finished broilers and a much lower price (usually a third less) for the poorer quality broilers or "culls." This is especially true in instances where a fairly large percentage of the flock offered for sale is poorly finished. Further comment will be made under the discussion of "Terminal marketing problems" regarding broiler grades and prices.

SHRINKAGE IN TRANSIT

Still another item that buyers have to consider is that of shrinkage or loss in weight of the broilers in transit. Such shrinkage varies depending principally on the weather and the length of time in transit. As the weather gets warmer, the shrinkage is apt to run higher than in cooler weather. Also, extended confinement in the coops, as occasioned by a delay in reaching the terminal market, will increase the amount of shrinkage. From the reports secured from the buyers contacted in this area, the average shrinkage, using the standard coop or basket averaging 50 pounds in weight as a basis, is given for the several terminal markets as follows:

New York, 2.8 pounds, or 5.6 percent; Philadelphia, 3 pounds, or 6 percent; Baltimore, 3.1 pounds, or 6.2 percent; Newark, 4.2 pounds, or 8.4 percent; and Washington, 3 pounds, or 6 percent.

TERMINAL MARKETING OF BROILERS

The whole question of terminal marketing is one of extreme importance to producers although only very few of them come directly in contact with terminal markets since their poultry is ordinarily handled by the various intermediaries in the chain. It is essential, however, that producers have an understanding of terminal marketing, inasmuch as it very directly effects the income which they receive for their products.³

MARKET ORGANIZATION AND PRACTICES

NEW YORK

Broilers moving into New York City by freight arrive at the New York Central Sixtieth Street terminal if they are coming from the West, or if coming from the South, at one of the three terminals in New Jersey. By far the largest percentage of receipts arrive at the Sixtieth Street, New York Central yards. When moving in by truck and express, with which movement this study is principally concerned, they usually come directly to a commission merchant or receiver located in West Washington Market at Fourteenth Street near the Hudson River. However, a smaller part of these receipts move directly to wholesale slaughterhouses located throughout the metropolitan area, principally in Brooklyn, Manhattan, and the Bronx.

When the broilers arrive at West Washington Market they are cooped in what is known as a "basket coop" which is usually constructed of wood, although some of them are made of wire. These baskets hold approximately 50 pounds of broilers. As the baskets are unloaded from the truck the broilers are transferred to what are known as "long coops" which are used almost exclusively in the New York market for transporting and holding poultry. The long coops will hold approximately three baskets, making the net weight of a

³ Receivers and slaughterers in the New York, Jersey City, Newark, Philadelphia, Camden, and Boston markets are now under the supervision of the Packers and Stockyards Act as amended in 1935 to include live poultry. Under this act many of the practices, activities, and charges of these functionaries are placed under the supervision of the Secretary of the U. S. Department of Agriculture.

long coop of broilers about 150 pounds. The long coops containing broilers are stacked at the receivers' stands to await the inspection of the buyers. The empty baskets are returned to the shippers by express or truck.

The receiver at New York has two outlets for live poultry, these being wholesale and retail slaughterhouses. The first is by far the most important. There are approximately 150 wholesale slaughterhouses in the 5 boroughs of New York City and about 200 retail slaughterhouses. It is impossible to give the exact number of either of these classes inasmuch as they are constantly shifting their business from that of a retailer to a wholesaler or from a wholesaler to a retailer, as conditions warrant. In addition, there is a high rate of business failure among this type of handler and old firms are constantly going out of business and are being replaced by new ones.

Ordinarily, the poultry is inspected before it is sold to either of these outlets. This inspection is performed by the Bureau of Agricultural Economics through a Federal-State cooperative agreement. However, there is no enabling legislation which makes such inspection mandatory, so at the present time it is mainly the pressure of these buyers that causes the inspection to be continued. This inspection is a sample one in which health condition and amount of feed in the poultry's crop are considered.

The proper inspection for live poultry is important to producers, inasmuch as it not only protects the producer but it is also a protection to the consumer of poultry. Consumer protection is as important to the producer as to the consumer, since consumer satisfaction tends to increase consumption, thereby benefiting producers.

After being sold to a wholesale slaughterhouse, the poultry passes on to one of three retail outlets known as chicken stores, chicken stands, and butcher shops. The wholesale slaughterhousemen's function resembles that of a jobber, inasmuch as he buys poultry in fairly large lots and sells it to the various retailers in smaller lots. The slaughterhouseman performs, in addition to his jobbing functions, the job of processor in that he slaughters the poultry before reselling it. In the case of the retail slaughterhouse, the poultry goes directly from the retail slaughterhouse to the consumer.

It has been estimated that about 80 percent of the live poultry is ritually slaughtered in accordance with the Hebrew dietary laws for consumption by Jewish people. This ritual slaughter involves the hiring of a schochet, who is a representative of the Jewish rabbi. The dietary laws of this religion require that the bird shall be in good physical condition with no broken bones and that it must be consumed within a relatively short time after being killed. These religious requirements exert an important influence upon the New York market since, if the poultry must be freshly killed and consumed a short time after slaughter, it is not possible as in other markets to slaughter, dress, and hold the poultry for a more favorable market.

In most other terminal markets there are facilities for slaughtering, dressing, and storing poultry but New York has no such facilities. This requires that all the poultry arriving in New York City must be slaughtered within a short time after it arrives, inasmuch as the poultry cannot be held alive and fed for an extended period due to the conditions under which it is held.

A number of practices have developed in the handling of poultry and the various services which accompany such handling in New York which are usually referred to as "rackets." Some of these practices are merely the result of inefficiencies which are hold-overs of old-time methods of doing business. On the other hand, some of these are actually vicious practices which were originated by a few individuals for their own benefit. Through the operation of the provisions of the Packers' and Stockyards Act previously referred to, it is believed that those practices that are contrary to the principles of sound, ethical marketing will be eliminated.

Among the charges and practices centering around service fees are the 85-cent rental for the long coop, the 50-cent cartage charge, and the \$52 a car unloading fee. All these charges affect the producer either directly through the account of sale, or indirectly through the curtailment of consumption if the charge is passed along to the ultimate consumer.

Labor in the New York market is well organized under trade unions. There are unions of unloaders, chauffeurs, standmen, and schochtim. Through these organizations labor has been able to secure, over a period of years, increasingly high wages and has been able to require in many cases that no reduction in the number of laborers in the slaughterhouses be made, even with the declining volumes of live poultry handled. This has naturally resulted in increased marketing costs, which must be borne either by the consumer or producer.

A source of great loss in the New York market, although not an evident one, is through the existing credit situation. Many of the retail outlets as well as a large number of the slaughterhouse outlets are in very poor financial condition, and large losses through bad debts are yearly sustained by the industry. These losses through bad debts, ultimately must be borne by the producers or consumers, inasmuch as the receivers and the other market agencies, through one means or another, must pass them on to the consumer through higher prices, or back to the producer by the means of lower prices. The establishment of a proper credit bureau or the elimination of a large number of the insolvent firms would be of material benefit.

The proper grading of poultry is a matter which relates even more directly to producers and until a well-established official grading system is provided in New York, producers will not be able to feel that they are being protected from the standpoint of price quotations or the returns on quality. This has been strikingly illustrated in connection with the price quotations for cross-bred broilers at New York. Cross-bred broilers have been quoted at from 1 to 3 cents a pound less than straight Rock broilers, and yet it was reported these cross-breeds were sold to the consumer on the same basis as straight Rocks. An official grading system would prevent such practices from reoccurring.

The shipper of live poultry to New York by truck or express has to pay the following charges: 1 cent or $1\frac{1}{2}$ cents per pound commission (the commission rate varying with different receivers in their arrangement with shippers), and 85 cents a coop for coop rental. There is no cartage charge except when patented trailers are used, 30 cents a coop then being charged for cartage. There are no unloading expenses charged to express and truck shippers. The

shipper who ships by freight to New York is charged \$52 a car for unloading, \$19 a car for loading on trucks, 85 cents a coop for coop rental, 30 cents a coop for coop cartage, and 1 cent per pound commission.

The prices quoted for live poultry at New York City have a very important effect on prices paid for live poultry in other parts of the country and, as indicated by this survey, serves as the base price for which producers are paid in the Del-Mar-Va area.

The Urner-Barry Co., publishers of the Producers' Price Current, is the accepted price-reporting agency in New York. The prices which they publish daily in the Producers' Price Current are accepted as the basis for the majority of wholesale transactions on live poultry in the New York metropolitan area. The method by which they arrive at their published quotations is briefly as follows:

The reporter of the Urner-Barry Co. goes to the 60th Street freight terminal at 9 o'clock in the morning to meet with the slaughterhousemen who represent the buyers, and with the receivers who represent the sellers. He obtains from these various buyers and sellers the quantities and prices at which they have bought and sold live poultry that morning. After receiving the various selling prices from sellers and buyers, the reporter then decides, on the basis of bids, offers, and sales confirmed by both buyers and sellers, and by knowledge of existing conditions, at what prices he will quote each of the various classes and grades of live poultry for that day.

The procedure in quoting the truck and express market is much the same as that for poultry arriving by freight, except that the reporter goes to the various commission merchants in West Washington Market and talks there with the buyers and sellers. When establishing prices on freight shipments, it is seldom that a range is quoted, but in the case of express and truck shipments a range in prices is quite often quoted. Sometimes the range is as much as 5 to 8 cents a pound. It is upon the basis of these quotations that the New York receiver makes returns to the shippers of the poultry. Since these ranges without specific grades allow the receiver considerable latitude, returns to the shipper are not always made on the basis of actual selling prices. For these reasons, it is suggested that producers' organizations should aid in bringing about reforms in New York toward securing a more efficient and accurate price reflecting and grading mechanism. A properly regulated exchange, for example, would help considerably.

Along with this problem of establishing wholesale prices is the question of securing adequate market information. Throughout this study the lack of accurate information and data on market receipts and prices has been a great handicap. In fact, it was often difficult to make exact recommendations because of the questionable nature of some of the data used. This problem could probably be solved in connection with the establishment of a proper market-making mechanism.

PHILADELPHIA

In Philadelphia live poultry is handled somewhat differently than in New York. There are about 18 commission merchants in this city who receive poultry. Most of these are comparatively small and, with the exception of one very large receiver of whom more will

be said later, they are all located at the Water Street Market. These receivers ordinarily do not, as is the case in New York, specialize entirely in live poultry since many of them handle eggs and many handle dressed poultry and butter.

The largest part of the live-poultry receipts at this market arrive by truck and express, freight arrivals being of minor importance. Broilers arriving by truck or express are unloaded at the Water Street Market stands of the receivers. The use of long coops in Philadelphia is comparatively limited and most of the receipts are handled in the regular basket type coop. From the receiver the poultry may move in two directions, either to small retail slaughterhouses or to a jobber and thence to retail agencies. Some of the receivers slaughter for sale to butcher shops but most of the poultry moves through alive to retail slaughterhouses.

There are about 15 jobbers in Philadelphia whose functions are not clearly defined but who break up the larger lots of live poultry into smaller lots to meet the demands of the retail trade. Many of them operate without a place of business. Whether these serve an economic function in the industry is questionable since the receivers often do the same job of breaking the poultry into smaller lots. There are between 500 and 600 small retail establishments in this city.

The most important receiver is one who is not located in the same market as those who have just been discussed. This firm receives about 80 percent of the entire live-poultry volume in Philadelphia. The plant of this company is completely equipped with modern machinery for slaughtering, dressing, and storage of poultry. The majority of this poultry is sold dressed to the various butcher shops in the Philadelphia market, the smaller amount moves to the retail slaughterhouses. This receiver has contacts in the South and Middle West where a large part of his supply is bought direct although many of his broilers come from the Virginia area. The type of equipment which this receiver has allows him to take better advantage of market conditions by being able to sell poultry alive, fresh killed, or storage packed.

At this market there have arisen certain practices which result in lower returns to poultry producers. These practices are not universal and are probably not as common or as vicious as are some of those found in the New York market. However, they do affect producers' income, and producers' associations should attempt to see that they are eliminated.

One of the most common complaints of shippers to Philadelphia has to do with the question of weighing. The establishment of an official system of weighing should remove doubts as to the accuracy of weights.

Another practice which is very closely tied up with the question of grading is the buying of poultry of a better quality at the same price from one shipper as poultry of inferior quality from another shipper. After the poultry has been settled for, the two grades are then mixed together which allows the receiver to get a larger net return from the two lots than he otherwise would have received. The establishment of a definite system of grading would correct this situation.

The practice of overfeeding live poultry is said to be quite prevalent here and the retail slaughterers are constantly complaining that they are forced to pay for feed in the crops of poultry which is later lost through shrinkage. The only inspection in Philadelphia is an occasional check-up made by the Philadelphia Department of Health for diseased poultry. This inspection is not as effective as it might be, due to the small force of inspectors available. Therefore it would be desirable that there be established a well-qualified and adequate inspection service in this market.

In Philadelphia the only charge made is for commission, which varies between 1 and 2 cents a pound, depending on the receiver and the circumstances of the shipment, although the usual charge is 1½ cents. There is no charge made for cartage, unloading, or for coops on express and truck poultry.

The method of arriving at daily market price quotations in Philadelphia is even more incorrect from the standpoint of true market values than the system used in New York. Quotations in this market are established by the Philadelphia Poultry Dealers' Association, Inc., a trade association to which most of the commission merchants and jobbers belong. The secretary of the association interviews each member daily asking his opinion as to the correct quotation for the various classes of poultry. It is on the basis of the majority's opinion that the quotation is made, and it is on the basis of this quotation that returns are made to shippers. Through this method, the buyers have no voice whatsoever in the establishment of the quotation and it is a common complaint among the retail dealers that they cannot buy on the basis of this quotation and that they usually have to pay a premium above it. Philadelphia buyers, of course, must of necessity keep their prices somewhat in line with New York live poultry prices, or they would be unable to receive a sufficient quantity for their needs. On the other hand, it is possible, by day-to-day manipulations to fix the market so that the receivers are benefited to the disadvantage of the producers and consumers. The proper solution to the problem is difficult to determine on the basis of present information. This is a question that is of particular interest to producers. It is of great concern to producers that some form of regulation which would give them the proper protection be affected here.

BALTIMORE AND WASHINGTON

In Baltimore poultry moves principally through a number of small receivers who upon arrival sell to small retail dealers such as butcher shops and chicken stands. In Washington practically all the poultry goes through about five handlers, two of whom have very good facilities for dressing. The majority of the Washington poultry is sold as fresh-killed, dressed poultry.

There are no specific complaints concerning bad practices in Baltimore, other than occasional complaints dealing with weighing and quality determination. Conditions in the Washington market seem to be satisfactory from the shippers' standpoint with no apparent evidence of bad practices existing, although more extensive investigation might bring some to light.

In Baltimore a commission of 1 cent a pound is sometimes charged although in most cases the receivers buy the poultry from the shipper on the basis of some prearranged understanding so that there is no commission charge. The same condition is true in Washington where most of the poultry is bought directly by dealers, although occasionally a commission is charged.

In Baltimore there is no market-making mechanism, and the only method of determining prices there is by reporters from some of the local newspapers who canvass the market daily and publish prices on the basis of the contacts made with dealers. The same method prevails in Washington. Both of these markets watch New York quotations and fluctuate around those quotations.

BROILER RECEIPTS AT TERMINAL MARKETS

Data on broiler receipts at terminal markets are extremely limited and unsatisfactory. New York and Chicago are the only two markets where information regarding receipts of live broilers is available, and there is no information available as to receipts of dressed broilers. In this study there has been no attempt to consider the Chicago market, since it is not important to the area involved.

Broilers arriving in New York by freight are the western and southern broilers produced principally from general farm flocks. In the case of the freight receipts it is possible to get a fairly accurate figure, inasmuch as all carloads are listed. However, in order to break down a carload into the various classifications such as fowls, broilers, etc., the only method possible under the present practice is to use the percentage make-up by classes of poultry and to assume that the average car weighs 16,000 pounds. In the course of another survey of the New York live poultry industry, there was a substantial amount of evidence brought out to establish that the 16,000-pound figure is reasonably correct. The percentage make-up of the car is obtained from the inspection reports of the Bureau of Agricultural Economics.

In the case of express and truck broilers the only available receipt data also are to be obtained through the inspection reports of the Bureau of Agricultural Economics. The period from June 1, 1934, to May 31, 1935, was selected because it was one during which the Bureau of Agricultural Economics Inspection Service was inspecting practically all the poultry arriving in New York. The Inspection Service during this period was backed by the authority of the live poultry code in New York City which required that all poultry arriving in the metropolitan area be inspected by that Service.

RECEIPTS BY STATES AND AREAS OF ORIGIN

Total live broiler receipts in New York City by months and State of origin, during the period from June 1, 1934, to May 31, 1935, are shown in table 16. This table indicates that Delaware is by far the most important State marketing live broilers in New York City, with 8,637,000 pounds received during the year, while Massachusetts and Connecticut are second and third, respectively, with 2,599,000 and 2,580,000 pounds. New Hampshire, Rhode Island, Maryland, and New York follow in order of importance. This would indicate that

approximately 42 percent of total receipts of live broilers at New York originate in Delaware. However, there are more local buyers of broilers in Delaware hauling to New York by truck than in any of the neighboring States. Further, as previously brought out, many of these buyers buy broilers in adjacent counties of Maryland and Virginia. Thus, a truck reaching New York operating with a Delaware automobile license is credited with a load of broilers from Delaware whereas, in many instances they are actually from Maryland or Virginia. Consequently, this table does not accurately show the true position which these States have as broiler producing areas.

The most important State in the general farming area which supplies New York with live broilers is Missouri, with a total volume of 370,000 pounds; Illinois and Indiana follow in order of importance.

During the period studied, live broilers were received in New York from 35 States, not including the District of Columbia, from which a small quantity was shipped.

Table 16, therefore, would seem to indicate that on the New York market there is considerable competition from a volume standpoint between the Del-Mar-Va area and the New England area, consisting of New Hampshire, Massachusetts, Connecticut, Rhode Island, and New York. It indicates that should any marketing or production program be undertaken, both of these areas would have to be included, and probably attention would have to be given to at least 10 additional States. Because of the lack of data there is no way of estimating the relative importance of these two areas within the other terminal markets in the East. However, it is known that the New England area sends by far the largest amount of its live-broiler supply to the New York market with a small percentage going to Boston. Live broilers of the Del-Mar-Va area are distributed between New York, Philadelphia, Boston, Washington, and some of the smaller eastern markets. For this reason it cannot be said that the New England supply is more important than that of the Del-Mar-Va area, although the receipt data at New York show New England and Delaware, Maryland, and Virginia to be equally important as live broiler sources.

SEASONALITY OF RECEIPTS

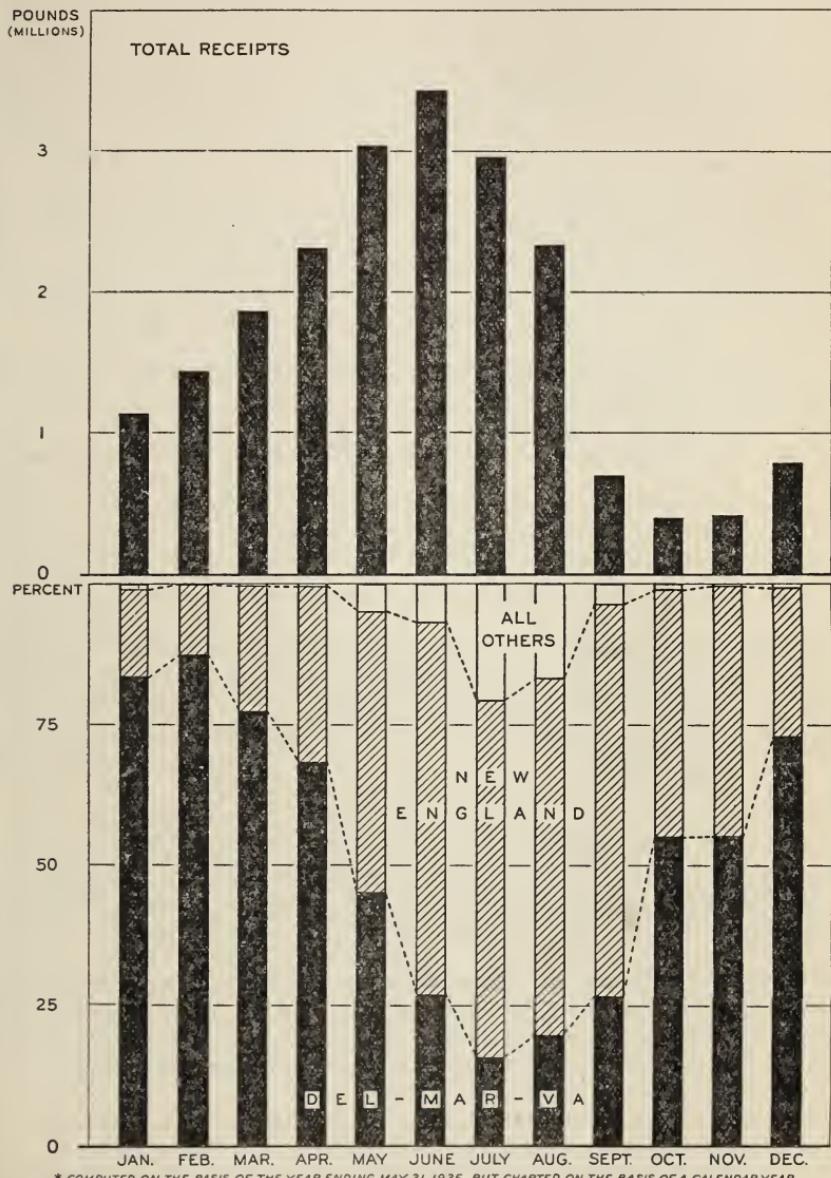
Figure 4 shows graphically the total receipts of live broilers at New York for this period, and the percentages of the total live broiler receipts as broken down into the areas from which they originated, and gives some indication as to the seasonal movement of live broilers to the New York Market.

The chart showing the total live-broiler receipts indicates that June, May, and July, respectively, are the most important months from the standpoint of volume. October and November are the least important. The chart showing the percentage of each month's receipts from the various areas indicates that there is considerable difference in the seasonal movement of live broilers from these three areas.

The heaviest receipts from the Del-Mar-Va area, expressed as percentage of total receipts, are during the months of February, March, December, and April; July, August, February, and

June being the lowest. On the other hand, the heaviest receipts from the New England area, expressed as a percentage of total re-

TOTAL RECEIPTS OF LIVE BROILERS AT NEW YORK CITY AND PERCENTAGE OF RECEIPTS BY AREAS, JUNE 1934-MAY 1935 *



* COMPUTED ON THE BASIS OF THE YEAR ENDING MAY 31, 1935, BUT CHARTED ON THE BASIS OF A CALENDAR YEAR

FIGURE 4.—This graph shows the total receipts of live broilers at New York for the period indicated. The lower chart shows the percentage of receipts by areas and the seasonal movement from these areas. As the volume of broilers from the Del-Mar-Va area decreases, the volume of receipts from New England and other areas increases.

ceipts, are during the months of February, June, July, and August. As indicated by this chart, the Del-Mar-Va area is the most

highly specialized for winter-boiler production, and of course would market broilers during the periods when receipts of live broilers from other areas were comparatively light. The receipts from the New England area show a wider dispersion over all the months than do the receipts from any other area. This is probably due to the fact that there are a number of general farm flocks as well as some specialized commercial flocks in this area which would make for a more even and regular movement to the market. Receipts from the area designated as "all other" are represented almost entirely by general farm flocks so that these broilers are marketed at the most convenient period, which would be July, August, and June.

Figure 5 shows graphically the seasonal movement of freight, and truck and express broilers to New York in comparison to the total. These are expressed as percentages of each month's receipts to the total annual broiler receipts. The very pronounced seasonality of freight receipts is clearly shown where the peak is reached in July,

LIVE POULTRY: BROILER RECEIPTS AT NEW YORK CITY, JUNE 1934-MAY 1935

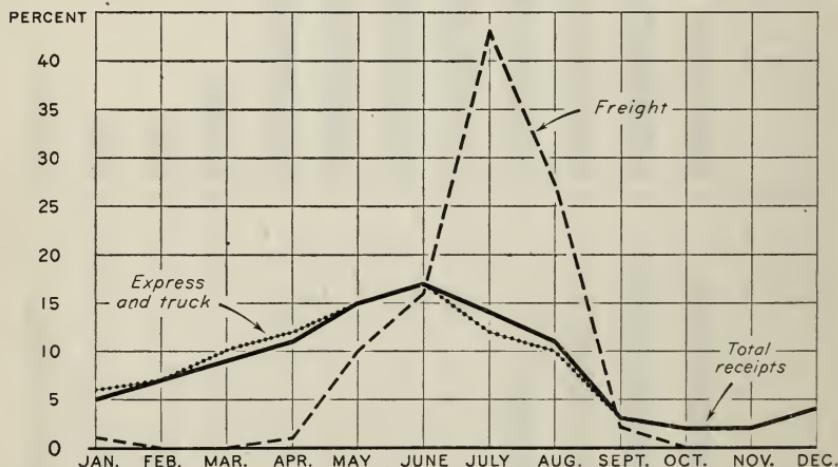


FIGURE 5.—The seasonal movement of freight, truck, and express receipts of broilers to New York shows the peak of express and truck receipts is reached in June and the peak of freight receipts is reached a month later. Truck and express receipts are distributed much more evenly over the year than are freight receipts.

and the less pronounced seasonality of truck and express is shown where the peak is reached in June. It will be noted that the total receipts follow very closely the truck and express receipts since they are by far the most important from the standpoint of volume.

TRUCK AND EXPRESS RECEIPTS IN RELATION TO THE TOTAL

Table 17 shows live broiler receipts by freight at New York City, by months and States of origin, and covers the period from June 1934 to May 1935. This table indicates that there are but 4 months which are of importance from the standpoint of live broiler receipts by freight. July was by far the most important, during which month 43 percent of the live broilers arrived; and August was second with 27 percent. During June, 16 percent arrived and 10 percent arrived

during May. All but 4 percent of arrivals by freight were during these 4 months.

The express and truck receipts for the same period as shown in table 18, however, do not indicate such a strong seasonal tendency as do freight receipts. There are 7 months during which these receipts are of importance, and even during the remaining 5 there are small quantities of live broilers arriving on the New York market by truck and express. This table indicates that June is the most important month with 17 percent of the total receipts. October, it will be noted, is the month during which the lowest receipts of live broilers by truck and express are recorded.

Contrasting the total receipts by freight with the total receipts by truck and express, there were 1,420,769 pounds by freight, as compared to 19,342,750 pounds by truck and express.

The significance of the heavy seasonal movement by freight and the more evenly distributed movement by express and truck lies in the fact that the freight receipts are made up of broilers which have been produced on nonspecialized poultry farms and which are marketed during the summer months as the young cockerels become of marketable age and size. The express and truck receipts on the other hand are made up principally from the specialized broiler producer's flocks, and, as would be expected, arrive on the market in a more evenly distributed manner.

Table 19 shows total live poultry receipts at New York and the percent of each month's receipts to the total for the year. The months of June, May, July, March, and August are respectively the most important months from the standpoint of total receipts as indicated by this table.

During the month of May live broiler receipts at New York comprise 27 percent of all live poultry receipts, 25 percent in June, and 24 percent in July. The months of least activity in respect to live broilers were October and November, when they were only 3 percent of the total.

BROILER PRICES

RELATION OF BROILER PRICES TO PRICES OF OTHER POULTRY

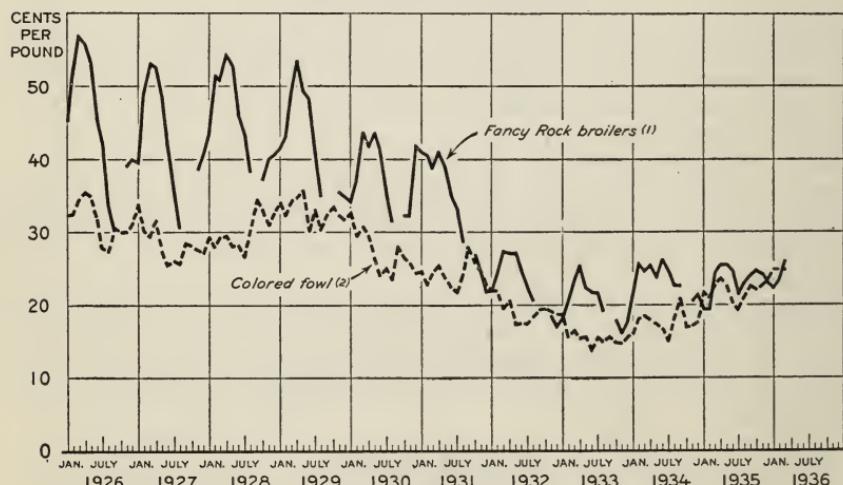
Before the advent of commercialized broiler production broilers on the New York market during parts of March and April were sold at twice and sometimes three times the price of fowls. In recent years, however, there has been a marked tendency for broiler prices to approach prices of other poultry. This is apparent in figure 6 which shows the price of fancy Rock broilers compared with prices of colored fowl at New York City. This price series was compiled from Urner-Barry reports and shows averages of the highest quotations on Wednesday, Thursday, and Friday for poultry received by truck and express.

This chart shows prices from 1926 through 1935 without seasonal variations removed. During the period 1926 through 1928 broiler prices in the spring months of the year were substantially higher than the price of fowls, the premium being 20 to 25 cents per pound. In 1929 the price of fowls increased without a corresponding increase

in the price of broilers. From 1929 through 1933 prices on both classes of poultry declined sharply but the declines in Rock broiler prices were proportionately greater than the declines in prices of colored fowls. The largest decline in broiler prices occurred between the years 1931 and 1932, although they dropped almost as sharply between 1929 and 1930. Broiler prices in March 1936 were lower than in 1932, while colored fowl prices were at least 10 cents higher than they were in 1932. In 1935 the price of broilers was only slightly higher than the price of colored fowls, and this narrow spread between broiler and fowl prices continued into 1936.

This changing relationship between broiler and fowl prices probably has been due to a great extent to the large increase in the production of commercial broilers. It is doubtful that if in later years broiler prices will have a much more favorable relationship to fowl prices than at present.

MONTHLY PRICES OF FANCY ROCK BROILERS AND COLORED FOWL,
NEW YORK CITY, 1926-36



(1) AVERAGE OF HIGHEST QUOTATIONS ON WEDNESDAY, THURSDAY AND FRIDAY.

(2) AVERAGE OF HIGHEST QUOTATIONS ON WEDNESDAY, THURSDAY AND FRIDAY. (URNER-BARRY PRODUCERS' PRICE CURRENT).

FIGURE 6.—The narrowing margin between the prices of fancy Rock broilers and colored fowl at New York for the 10-year period of 1926-36 is clearly shown in this chart.

This tendency for broiler prices to approach prices of other poultry was evidently taking place before 1926. The University of New Hampshire Bulletin, No. 234, June 1928, "Marketing Live Broilers in New York City", included charts on top quotations on broilers and fowls on Thursday of each week from 1921 through 1927 which show that from 1921 through 1927 the top quotations on broilers were lower each succeeding year than the previous year. During this period, of course, fowl prices also declined but not to that extent and not as consistently.

SEASONAL CHANGE IN PRICES

Figure 7 shows the normal seasonal change in Rock broiler and colored fowl prices at New York City. The prices used are the average high quotations on Wednesday, Thursday, and Friday of

each week. The seasonal change in broiler prices as indicated by this chart shows a marked tendency to flatten out in recent years, although prices still show a tendency to increase from November

AVERAGE SEASONAL VARIATION IN PRICES OF ROCK BROILERS
AND COLORED FOWL, NEW YORK CITY, 1926-36

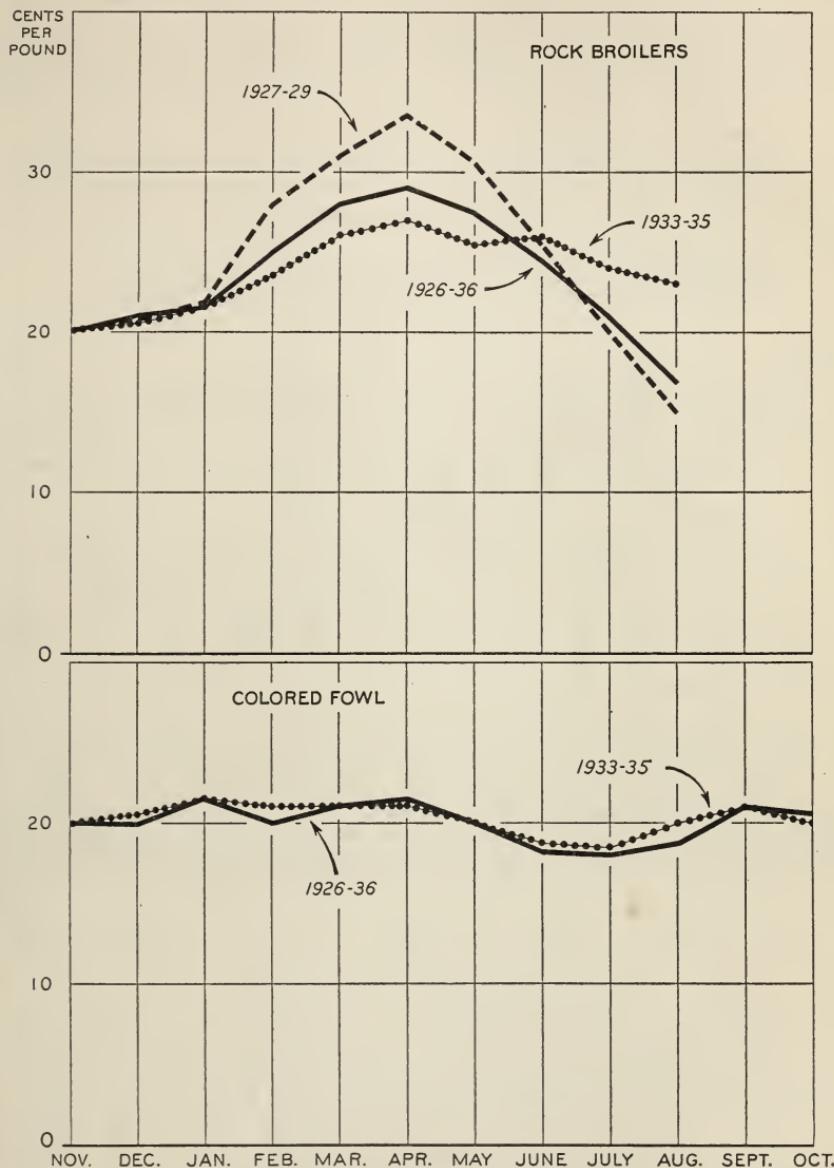


FIGURE 7.—A comparison of the average seasonal variation in prices of Rock broilers and colored fowl for the periods shown indicates greater seasonal variation in the former than in the latter.

through April. In showing the normal seasonal change of both broilers and fowls, it is assumed that the November price was 20 cents per pound. The average amount that each month was above

or below the preceding month is then used to show what the price would have been under normal conditions with the November price of 20 cents. The solid line shows the average seasonal change during the 10-year period from 1926 through 1935. The dashed line on broiler prices shows the average seasonal change during the 3 years, 1927 through 1929. The dotted line for both broilers and fowls shows the change during the years 1932 through 1935. During the earlier period there was a decided tendency for broilers to reach a very high price in the spring of the year, on an average more than two times as high as the low price of the preceding year, and then to decline. During the last 3 years there has been a tendency in this direction, but to only a slight degree as compared to the earlier period. Also in recent years prices have not declined to as low a level by August as they had in the previous November.

AVERAGE MONTHLY PRICES OF FANCY ROCK BROILERS AND
DRESSED POULTRY (2-3 LBS.) NEW YORK CITY, 1926-36

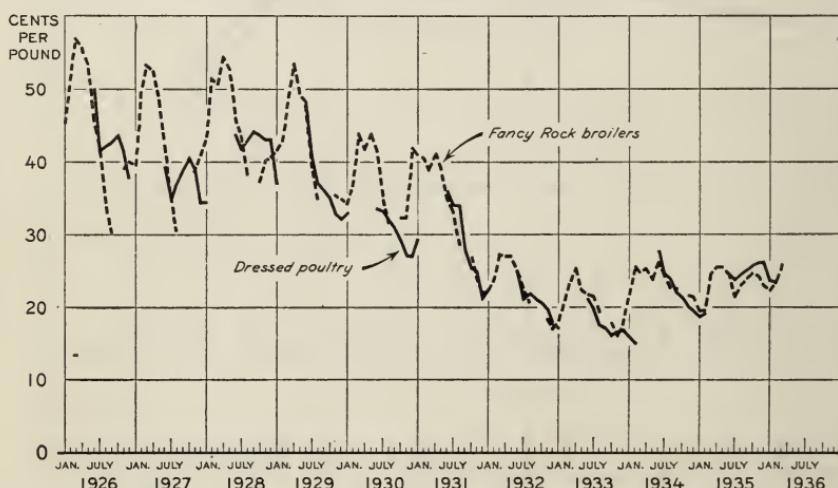


FIGURE 8.—This graph showing the average monthly prices of fancy Rock broilers and dressed poultry (2-3 pounds) at New York for the period of 1926-36 indicates that since 1931 the margin between live and dressed poultry has been narrowed so that live poultry is in a better position from the standpoint of price competition than formerly.

The lower part of figure 7 showing the normal seasonal change in fowl prices does not show nearly so wide a seasonal swing as broiler prices. There is a tendency during the whole period for fowl prices in the summer months to be lower than at other times of the year and also for fowl prices to increase during holiday seasons. The curve for the last 3 years appears to be slightly flatter than the curve for the 10-year period, but this may be due entirely to the fact that prices were on a considerably lower level during recent years. If percentage differences had been used in calculating this seasonal change instead of actual differences, there probably would have been no noticeable variance between the two periods.

LIVE AND DRESSED BROILER PRICES

Figure 8 shows the average price of fancy Rock broilers at New York City compared with the prices of fresh-killed western dressed

chickens in the 2- to 3-pound class, from 1926 through 1935. Prices on dressed poultry in these sizes are mainly quoted during the periods when Rock broiler prices have declined to a fairly low level. When Rock broiler prices reach a low level about July there appears to be a tendency for dressed chickens to be substituted. During recent years, particularly beginning with 1931, it appears that dressed chickens have been in a better competitive position than formerly in relation to live broilers. This condition was particularly true in 1935 when the price of live broilers was extremely low in relation to the price of colored fowl.

RELATION BETWEEN PRICES OF VARIOUS CLASSES OF BROILERS

Figure 9 shows daily prices of Rock, Leghorn, and colored broilers at New York City during 1935. Prices used in all cases were the top of the quoted daily range. It is impossible to determine without further analysis the extent to which the situation in 1935 was a normal situation, or if conditions in this year were unusual. Rock broiler prices in 1935 were high in relation to the prices of other broilers, particularly during the period from March through July. During the winter and most of the fall months both colored broilers and Leghorn broilers were only slightly lower than the price of Rock broilers. In all cases Leghorn broilers were generally below both colored broilers and Rock broilers, but this was particularly true during the period of June and July. While there is a tendency for distinct spread between the different classes of broilers, as a general rule fluctuations in one class appear to follow fluctuations in the other class. Observation on the New York live poultry market indicates that during most periods of the year the price of Rock broilers tends to determine the level of price for all live broilers. Considerably more interest in Rock broilers is shown on the part of both buyers and sellers than in other broiler prices, and if there is a change in this class there usually will be a change in the other classes. It does appear, however, that changes are made somewhat more frequently in quotations of colored and Leghorn broilers than in the case of Rock broilers. This is probably due to the fact that one or two particular receivers who may be interested in specific shipments of colored or Leghorn broilers will be able to have a different price quoted on the class of poultry which they have in order to sell the particular lot or lots of broilers.

PRICES AT SEVERAL MARKETS

Figure 9 shows the daily price of Rock broilers at New York, Baltimore, and Washington during 1935. In all cases the top of the quoted range is used and where quotations are not given for Rock broilers the price of Rock chickens is substituted, using chickens of approximate broiler weight.

It should not be assumed that the year 1935 was representative of any period except this particular year. During most of the year prices at Washington were lower than prices at New York and Baltimore, although this was not true during the winter months. Baltimore prices were above New York prices about as much of the time as they were below, although during the fall period New York prices seemed to be higher than the other two markets. There is a tend-

ency for prices at the three markets to fluctuate in somewhat the same manner although there are considerable deviations from this

PRICES OF ROCK, LEGHORN, AND COLORED BROILERS IN NEW YORK,
AND PLYMOUTH ROCK BROILERS IN NEW YORK, BALTIMORE,
AND WASHINGTON, JAN. 1 - DEC. 31, 1935

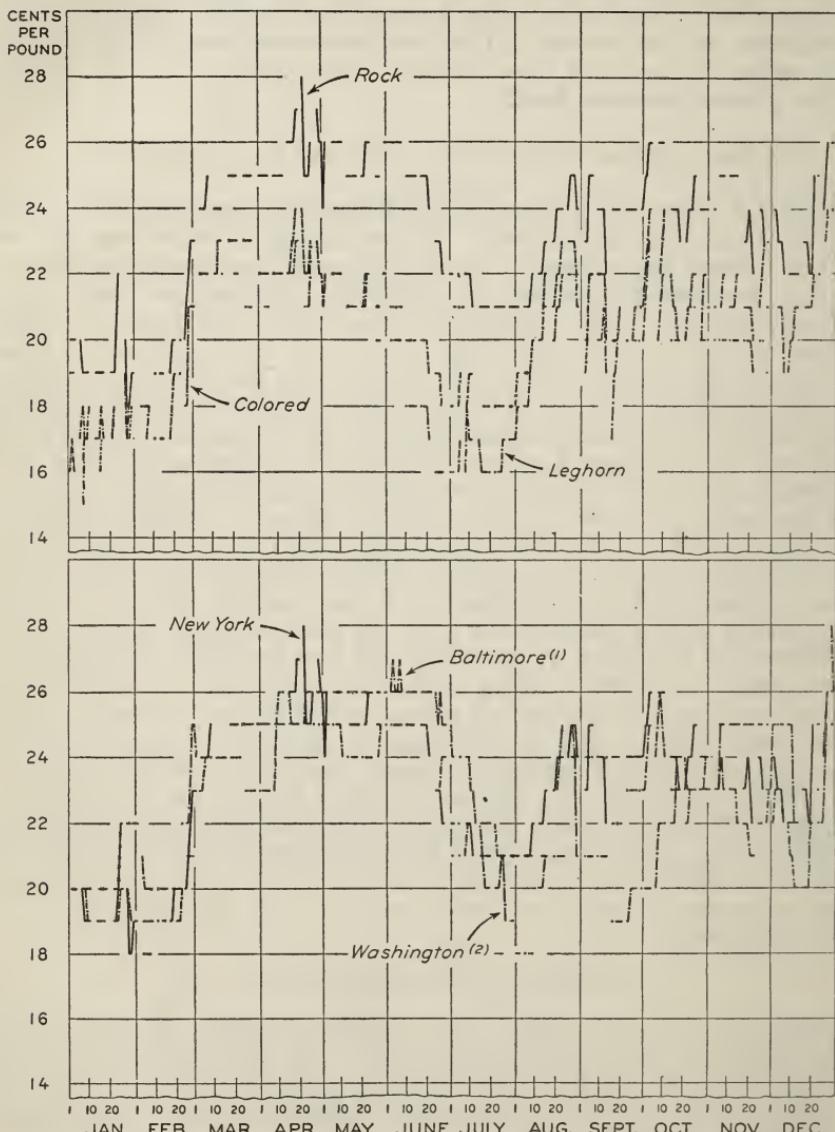


FIGURE 9.—The upper portion of this chart shows the seasonal relationship in price between three classes of broilers in New York for the year 1935. It is indicated that Leghorn prices are generally below the other two classes and Rock prices are higher than colored and Leghorn broilers. In the lower part of this chart, there seems to be a tendency for Rock broiler prices at these three markets to fluctuate in somewhat the same manner. There are, however, exceptions to this general rule.

general rule. Quite often prices for several days in any one market may be high or low in comparison to prices at the other markets.

Generally, however, within a period of a week, prices at any one market will adjust themselves to the prices at other markets.

It is not possible to tell definitely from this chart whether or not the New York market sets the pace for the other markets. Previous studies, however, have indicated that the New York price appears to have some effect on prices of poultry at other markets, and on this chart too there often appears to be occasions where the New York prices will either increase or decline a few days in advance of other markets.

CONSUMPTION OF BROILERS

There evidently is considerable difference in the consuming channels through which live broilers move in New York as contrasted with the other eastern markets. In New York, according to the trade, practically all the live broilers are used for household consumption, with very few of them moving to restaurants and hotels. There are several reasons which may explain this condition.

In the first place the slaughterhouses are not prepared to slaughter and dress poultry in sufficient quantities for a large hotel or restaurant trade. As most of the poultry in New York is sold to the Jewish trade it is sold with only the throat cut and without the feathers removed. Most slaughterhouses maintain plucking rooms and keep one or two men around to remove the feathers from the birds if the consumer desires, but this is usually done as a service to the consumer for which there is either no charge or a very small one to cover the cost. There are no slaughterhouses in New York which could, with their present facilities, perform this service in a satisfactory manner in large quantities. Furthermore, studies tend to indicate that the price of dressed poultry in New York is lower than the price of live poultry. Hotels or restaurants, by using dressed poultry, could save this differential between the price of live and dressed poultry as well as get a more standardized and uniform product. Since dressed poultry is packed according to sizes and is graded more carefully, the hotels and restaurants, for this reason, would be able to obtain a uniform serving from every dressed broiler purchase.

In Philadelphia, Washington, and Baltimore there is reason to believe that these same conditions do not prevail. As before mentioned, all these cities have dressing facilities which would easily permit them to dress in sufficient quantities to satisfy the needs of a large consuming establishment such as a hotel or restaurant. Also, there does not appear to be the differential in price between live and dressed poultry which exists in New York. The principal reason why these price differentials do not exist is because the handling of live poultry in these other markets is not surrounded by the apparent inefficiencies, such as excess service charges, that exist in New York.

The broiler lends itself very well to serving in a restaurant or hotel inasmuch as it is small enough that it can be served very conveniently as a half chicken. Furthermore, it fulfills the luxury requirements which many consumers demand when they are dining out in hotels and restaurants.

As has been pointed out, live poultry in New York after being slaughtered, is sold principally with the feathers on. This does not contribute to the making of an attractive package to the consumer.

In the slaughtering process, the birds' throats are cut and they are thrown in barrels, partially filled with sawdust, to bleed. The feathers become matted with blood and sawdust, making a very unappetizing product when it reaches the retail store. In order to increase consumer demand and to secure a better consumer's acceptance, it certainly would be in the interest of producers to insist that this poultry product be made more attractive in appearance. Not only is the product itself unattractive, but many stores in which it is sold are very dirty and unpleasing in appearance. The unattractive surroundings in which the poultry is sold likewise do not contribute to increased sales. The merchandising of live poultry as contrasted with the very neat and appetizing appearance of dressed poultry as sold in up-to-date retail stores makes it easy to understand why dressed poultry seemingly is becoming more desirable to consumers. Broilers at Washington are so handled and are attractive and appetizing in appearance. One of the reasons why the live poultry industry has been able to hold its volume to the extent it has is that such a large percentage of the live poultry business in New York is dependent upon the Jewish population.

Producers might consider the possibilities of the establishment of a poultry slaughtering and dressing plant easily accessible to these eastern terminal markets so that they could place on these markets attractive fresh-killed poultry packages which would meet with favorable consumer reaction. It might be possible to arrange to slaughter poultry in accordance with the Jewish dietary laws for Hebrew consumption, since the distance from the market would be slight.

APPENDIX

TABLE 1.—*Frequency table showing relative importance of broilers as a source of farm income in the Del-Mar-Va area, 1934-35*

State and county	Importance of broilers as source of farm income						
	First	Second	Third	Fourth	Fifth	Sixth	Total
Delaware:							
Kent		1	1	1	1	1	5
Sussex	24	5	1	3	2	—	35
Maryland:							
Caroline	5	1	2	—	—	—	8
Somerset	1	2	1	2	—	1	7
Wicomico		1	—	—	1	—	2
Worcester	3	—	—	1	1	—	5
Virginia: Accomac	8	1	2	1	—	—	12
Total, all counties	41	11	7	8	5	2	74
Percent of total	55.4	14.9	9.4	10.8	6.8	2.7	100

TABLE 2.—*Growth of the broiler industry in the Del-Mar-Va area: Number of broilers produced in each year since 1925 by a sample of 131 typical broiler producers¹*

State and county	Years				
	1934-35	1933-34	1932-33	1931-32	1930-31
Delaware:					
Kent	96,500	83,350	75,700	79,700	96,300
Sussex	701,400	544,400	483,400	412,000	314,000
Maryland:					
Caroline	229,200	206,500	152,000	137,500	124,300
Somerset	23,825	15,400	14,025	14,000	11,375
Wicomico	6,600	3,200	2,000	2,000	2,000
Worcester	60,300	39,300	31,450	19,300	8,700
Virginia: Accomac	216,545	127,610	87,140	76,370	62,116
Total all counties	1,334,370	1,019,760	845,065	740,870	618,791
Percent each year is of 1925 production	1,511	1,155	957	839	701
Number of producers ²	131	122	97	87	80
Number of broilers per producer	10,186.0	8,358.7	8,712.0	8,515.8	7,734.9

State and county	Years				
	1929-30	1928-29	1927-28	1926-27	1925-26
Delaware:					
Kent	76,200	52,200	39,200	24,200	6,800
Sussex	238,200	195,100	132,900	67,800	32,875
Maryland:					
Caroline	90,500	103,000	68,000	35,000	20,000
Somerset	8,300	8,325	7,950	9,950	9,950
Wicomico	2,000	2,000	2,000	2,000	2,000
Worcester	700	2,900	2,200	500	500
Virginia: Accomac	42,850	21,400	17,450	16,150	16,200
Total all counties	458,750	384,925	269,700	155,600	88,325
Percent each year is of 1925 production	519	436	305	176	100
Number of producers ²	71	62	50	41	28
Number of broilers per producer	6,461.3	6,208.5	5,394.0	3,795.1	3,154.4

¹ These figures do not represent by any means all the broilers produced in the area, but merely offer an index to the growth of the industry since 1925.

² Not all the 131 producers shown for 1934-35 were in business during the entire 10-year period. The figures in this row thus offer an index of the increase in number of producers from year to year since 1925.

TABLE 3.—*Census reports of chicken eggs produced in broiler counties in the Del-Mar-Va area*

County and State	Eggs per chicken raised (dozens)		
	1934	1929	1924
Delaware:			
Kent.....	3.9	4.4	3.9
Sussex.....	.6	3.1	4.3
Total.....	.9	3.3	4.2
Maryland:			
Caroline.....	2.9	1.8	3.7
Somerset.....	2.3	3.6	3.2
Wicomico.....	2.7	4.0	4.1
Worcester.....	1.8	4.1	2.4
Total.....	2.1	3.6	3.3
Virginia: Accomac.....	1.2	1.9	1.0
Grand total.....	1.2	3.2	3.3

TABLE 4.—*Frequency table showing plant capacity of broiler producers in the Del-Mar-Va area*

Capacity (number of chicks)	Number of producers, by States and counties							Total	
	Delaware		Maryland				Virginia		
	Kent County	Sussex County	Caroline County	Somerset County	Wicomico County	Worcester County			
0-999.....	3	6		2	1	4	12	28	
1,000-1,999.....	2	24		13	3	12	12	66	
2,000-2,999.....	5	35	1	14	2	15	26	98	
3,000-4,999.....	5	56	2	11	4	14	32	124	
5,000-7,499.....	3	73	7	6	3	9	18	119	
7,500-9,999.....	1	19	1	1			7	29	
10,000-14,999.....	3	51		1	1	4	15	75	
15,000-19,999.....	1	17	1				8	27	
20,000-29,999.....		29	3	1			1	34	
30,000-39,999.....	1	3	2	1			2	9	
40,000-49,999.....		3	1					4	
50,000-59,999.....		1						1	
60,000-69,999.....						1		1	
70,000 and over.....		1						1	
Total.....	24	318	18	50	14	59	133	616	

Plant capacity as used here refers to the maximum number of chicks that can be brooded at one time.

TABLE 5.—Number of broiler chicks in the Del-Mar-Va area to be started in each month during the 1935-36 season¹

State and county	Number of broiler chicks to be started						
	1935					1936	
	August	Septem- ber	Octo- ber	Novem- ber	Decem- ber	January	February
Delaware:							
Kent.....	8,000	10,000	18,000	15,000	11,000	12,000	39,400
Sussex.....	24,900	105,400	220,475	387,900	279,100	476,050	200,350
Maryland:							
Caroline.....	1,600	23,000	3,300	54,000	2,000	86,000	57,500
Somerset.....		9,400	48,400	15,500	2,600	12,000	55,200
Wicomico.....		2,000	1,000	1,000		12,000	5,000
Worcester.....	2,500	3,250	9,700	19,000	15,700	30,100	15,500
Virginia: Accomac.....	4,000	16,780	72,400	126,300	89,000	43,100	41,000
Total.....	41,000	169,830	373,275	618,700	399,400	671,250	413,950
Percent each month is of season's total.....	1.2	5.1	11.3	18.7	12.0	20.3	12.5

State and county	Number of broiler chicks to be started					
	1936					Total 1935-36
	March	April	May	June	July	
Delaware:						
Kent.....	2,500	5,500		1,500	1,000	123,900
Sussex.....	222,000	41,750	48,700		9,000	2,015,625
Maryland:						
Caroline.....	39,000	3,000	28,000			297,400
Somerset.....				2,000		143,100
Wicomico.....				92,000	5,000	23,000
Worcester.....	18,100	17,100	500	12,500	2,000	210,850
Virginia: Accomac.....	76,600					501,280
Total.....	358,200	67,350	77,200	108,000	17,000	3,315,155
Percent each month is of season's total.....	10.8	2.0	2.3	3.3	0.5	100.0

¹ Based on reports of about 200 broiler producers.

TABLE 6.—Number of broiler chicks started in 1934-35 as compared to the number to be started in 1935-36

State and county	Number of producers reporting	Number of chicks started in 1934-35	Number of chicks to be started in 1935-36	Percent increase (+) or de- crease (-) 1935-36 is over 1934-35
Delaware:				
Kent County.....	9	102,500	123,900	+20.9
Sussex County.....	89	1,702,700	1,818,525	+6.8
Maryland:				
Caroline County.....	5	179,000	208,400	+16.4
Somerset County.....	10	117,850	143,100	+21.4
Wicomico County.....	3	37,100	9,500	-74.4
Worcester County.....	14	277,500	214,350	-22.8
Virginia: Accomac County.....	49	411,700	499,280	+21.3
Total.....	130	2,828,350	3,017,055	+6.7

TABLE 7.—*Type of agency from which broiler chicks were purchased in the Del-Mar-Va area, 1934-35*

State and county	Number of producers included in sample	Source of broiler chicks						Total	
		Own hatching		From commercial hatcheries ¹		From dealers ²			
		Number of chicks	Percent of total	Number of chicks	Percent of total	Number of chicks	Percent of total		
Delaware:									
Kent	8	18,000	17.2	86,735	82.8	203,400	21.7	104,735	
Sussex	72	23,280	2.5	711,100	75.8			937,780	
Maryland:									
Caroline	13			419,000	98.8	5,000	1.2	424,000	
Somerset	8	540	3.0	16,800	94.4	460	2.6	17,800	
Wicomico	3	1,800	26.9	4,900	73.1			6,700	
Worcester	8			34,600	53.6	30,000	46.4	64,600	
Virginia: Accomac	27	500	.2	228,250	89.4	26,500	10.4	255,250	
Total	139	44,120	2.4	1,501,385	82.9	265,360	14.7	1,810,865	

¹ Commercial hatcheries are those located throughout the Delaware, Maryland, and Virginia area.² Dealers obtain their chicks mainly from large hatcheries in New England for whom the dealers serve as local agents in the Delaware, Maryland, and Virginia area.TABLE 8.—*Source of broiler chicks for the Del-Mar-Va area, by States, 1934-35*

	Number of producers who purchased chicks from hatcheries located in—											
	Connecticut	Delaware	Illinois	Indiana	Maine	Maryland	Massachusetts	New Hampshire	New Jersey	Ohio	Pennsylvania	Virginia
Delaware:												
Kent	2	9				2						
Sussex	30	43	1	1	2	31	7	8	9	1	7	1
Maryland:												
Caroline	9	5				7		1	2		1	1
Somerset		2				9				1	1	
Wicomico	2					4						
Worcester						8						1
Virginia: Accomac	6	3				27						4
Total	49	62	1	1	2	88	7	9	11	2	9	6

TABLE 9.—*Location of hatcheries supplying broiler chicks*

Location of broiler plants purchasing chicks	Number of producers	Location of hatcheries supplying broiler chicks					
		Connecticut	Delaware	Maryland	Massachusetts	New Hampshire	New Jersey
Delaware	97	690,900	498,100	259,200	45,800	163,900	83,900
Virginia	47	125,200	26,750	232,400	2,500		
Maryland	36	137,000	16,500	518,550		40,500	400
Total	180	953,100	541,350	1,010,150	48,300	204,400	84,300
Percent each State is of total		32.17	18.27	34.10	1.63	6.90	2.85

Location of broiler plants purchasing chicks	Pennsylvania	Virginia	Maine	New York	Ohio	Total chicks
Delaware	39,500	28,000	8,400			1,817,700
Virginia	25,850			5,000		417,700
Maryland		5,800			8,500	727,250
Total	39,500	59,650	8,400	5,000	8,500	2,962,650
Percent each State is of total	1.33	2.01	0.28	0.17	0.29	100.0

TABLE 10.—*Prices paid for broiler chicks in the Del-Mar-Va area, 1934-35*
 [Average price by months]

Year and month	Number of producers in sample	Price per 100 chicks (simple average)	Range in price per 100 chicks
1934			
August.....	10	\$8.23	\$6.00-\$10.50
September.....	15	8.37	6.50-12.00
October.....	23	9.20	7.00-13.00
November.....	28	9.81	6.00-13.00
December.....	36	10.64	8.50-12.00
1935			
January.....	26	10.20	7.00-15.00
February.....	21	8.60	6.00-12.00
March.....	26	8.80	4.50-13.00
April.....	23	9.11	7.00-14.00
May.....	10	9.10	7.00-13.00
June.....	6	8.42	4.00-12.00
July.....	2	8.75	7.00-10.50

TABLE 11.—*Death losses of broiler chicks in the Del-Mar-Va area, 1934-35*

State and county	Number of producers in sample	Total number of chicks purchased	Number lost from disease during first 2 weeks		Number lost from disease after first 2 weeks	
			Number	Percent of total	Number	Percent of total
Delaware:						
Kent.....	8	83,235	4,377	5.26	8,563	10.29
Sussex.....	55	472,100	30,384	6.44	45,566	9.65
Maryland:						
Caroline.....	5	150,000	5,361	3.57	11,494	7.66
Somerset.....	8	11,129	650	5.84	698	6.27
Wicomico.....	1	2,200	150	6.82	50	2.27
Worcester.....	8	62,650	3,062	4.89	10,830	17.29
Virginia: Accomac.....	25	212,700	8,660	4.07	20,972	9.86
Total.....	110	994,014	52,644	5.30	98,173	9.88

TABLE 12.—*Proportion of broiler producers using credit in various phases of broiler enterprise, 1934-35*

Purchases for which credit is used	Percent of producers using credit	Purchases for which credit is used	Percent of producers using credit
Broiler chicks.....	45.3	Fuel.....	46.0
Feed.....	68.3	Lumber and materials.....	15.1
Brooding equipment.....	12.9		

TABLE 13.—*Relation of the size of flock to gross income*

Item	Average number of birds started per farm					
	Under 5,000	5,000 to 9,999	10,000 to 14,999	15,000 to 19,999	20,000 and over	Average for all farms
Total number of birds.....	98,536	168,760	123,354	68,363	410,175	1,897,238
Average number of birds raised per farm.....	2,239	4,688	9,489	13,673	37,289	8,231
Average per farm (dollars):						
Income.....	1,095.70	2,418.08	4,612.84	6,120.60	21,155.91	4,065.27
Cost.....	1,218.98	2,178.61	4,183.92	6,246.20	20,737.36	3,941.72
Profit.....	-123.28	239.47	428.92	-125.60	418.55	123.55
Average per bird (cents):						
Income.....	48.9	51.6	48.6	44.8	56.7	49.3
Cost.....	54.4	46.5	44.1	45.7	55.6	47.8
Profit.....	-5.5	5.1	4.5	-0.9	1.1	1.5

¹ This is the total of all birds rather than the average.

TABLE 14.—Comparative cost of producing broilers seasonally

Item	Cost per 100 birds		
	Fall broilers ¹	Winter broilers ²	Spring and summer broilers ³
General expenses:			
Fuel.....	\$2.75	\$2.24	\$0.66
Light.....	.09	.12	.22
Water.....	.07	.09	.09
Disinfectants.....	.16	.15	.05
Total.....	3.07	2.60	1.02
Feed:			
Mash.....	23.70	24.68	21.05
Grain.....	2.46	2.77	2.70
Green feed on farm.....	.16	.09	
Litter.....	.54	.46	.26
Oyster shell.....	.01	.01	
Sand, grit, charcoal.....	.03	.06	.39
Milk.....	.41	.62	1.50
Cod-liver oil.....	.08	.06	.04
Miscellaneous.....	.02	.02	
Total.....	27.41	28.77	25.94
Labor:			
Hired.....	1.20	1.06	1.33
Family.....	2.69	2.89	1.92
Total.....	3.89	3.95	3.25
Total cost of production.....	34.37	35.32	30.21

¹ Includes September, October, November, and December. 58 lots, 247,715 birds raised.² Includes January, February, March, and April. 64 lots, 262,394 birds raised.³ Includes May, June, July, and August. 5 lots, 33,419 birds raised.TABLE 15.—Market disposal of broilers in 1934-35, by a sample of 93 broiler producers in the Del-Mar-Va area¹

State and county	Total number of broilers	Sold to local dealer		Shipped to Baltimore		Shipped to New York	
		Number	Percent	Number	Percent	Number	Percent
Delaware:							
Kent.....	75,029	66,129	87.1				
Sussex.....	355,588	347,528	97.7			5,200	1.5
Maryland:							
Caroline.....	149,823	49,543	33.1	19,013	12.7		
Somerset.....	14,710	5,210	35.4			500	3.4
Wicomico.....	2,000	2,000	100.0				
Worcester.....	23,520	23,520	100.0				
Virginia: Accomac.....	121,417	119,417	98.4				
Total.....	742,087	613,347	82.6	19,013	2.6	5,700	.8

State and county	Shipped to Philadelphia		Shipped to Washington		Shipped to Wilmington	
	Number	Percent	Number	Percent	Number	Percent
Delaware:						
Kent.....	8,900	11.9				
Sussex.....	1,960	.6			900	0.2
Maryland:						
Caroline.....	9,000	61.2	81,267	54.2		
Somerset.....						
Wicomico.....						
Worcester.....						
Virginia: Accomac.....	2,000	1.6				
Total.....	21,860	2.9	81,267	11.0	900	.1

¹ Most of the broilers sold to local dealers are subsequently shipped to the large cities by such dealers.

TABLE 16.—*Live poultry: Total broiler receipts at New York City, by months and State of origin, for the period June 1934 to May 1935—States listed in order of importance*

State of origin	1934						
	June	July	August	September	October	November	December
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Delaware	848,400	399,450	386,500	133,150	196,950	206,650	544,600
Massachusetts	741,550	681,000	365,700	130,050	4,950	14,350	17,000
Connecticut	337,000	268,050	289,700	134,650	124,400	137,050	141,800
New Hampshire	511,900	440,200	390,800	53,950	13,850	5,100	650
Rhode Island	298,100	194,600	228,350	69,600	6,500	6,400	8,800
Maryland	71,300	62,500	56,650	33,850	15,555	16,100	30,450
New York	230,700	110,550	57,450	39,650	9,000	12,850	20,250
Pennsylvania	39,200	84,200	95,950	33,200	14,050	4,750	4,450
Missouri	47,981	178,693	121,523	5,600	700	163	838
Virginia	3,350	5,850	20,150	19,000	6,000	4,430	626
New Jersey	64,100	30,800	6,400	14,800	700	1,950	16,400
Illinois	35,280	96,219	62,701	4,576	624	184	845
Indiana	37,632	86,222	62,701	4,160	605	197	544
Maine	44,150	58,700	28,050	5,100	-----	-----	-----
Nebraska	16,935	62,480	41,370	1,984	408	109	595
Tennessee	15,723	12,496	1,293	-----	5	658	172
Iowa	17,875	52,483	27,795	1,472	192	51	288
Kentucky	20,227	23,743	6,714	2,256	717	50	369
Ohio	11,290	28,741	21,431	1,728	206	112	262
Arkansas	9,408	24,992	10,342	320	34	14	147
Oklahoma	8,467	17,494	5,818	128	19	19	154
Kansas	6,115	12,496	14,221	864	101	34	154
South Dakota	3,293	11,246	10,342	640	125	38	192
Vermont	2,550	7,250	8,300	3,200	350	50	-----
North Carolina	-----	-----	1,050	-----	-----	-----	-----
Minnesota	1,882	3,749	1,293	96	24	5	19
Alabama	-----	-----	-----	-----	-----	6	-----
Mississippi	470	-----	-----	-----	-----	8	13
California	-----	1,250	-----	-----	-----	-----	26
Texas	470	-----	-----	32	-----	-----	-----
South Carolina	-----	-----	-----	-----	-----	-----	-----
North Dakota	-----	-----	-----	64	5	5	-----
Wisconsin	-----	-----	-----	64	-----	-----	-----
Georgia	-----	-----	-----	-----	-----	2	-----
Colorado	-----	-----	-----	-----	-----	-----	-----
Total	3,425,348	2,955,454	2,322,594	694,184	396,070	411,335	789,644
Percent of each month's broiler receipts to 12 months' total broiler receipts	17	14	11	3	2	2	4
Percent of each month's broiler receipts to total live poultry receipts for the same month	25	24	16	4	3	3	6

TABLE 16.—*Live poultry: Total broiler receipts at New York City, by months and State of origin, for the period June 1934 to May 1935—States listed in order of importance—Continued.*

State of origin	1935					Total
	January	February	March	April	May	
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Delaware	863,250	1,181,900	1,327,450	1,333,700	1,215,400	8,637,400
Massachusetts	14,050	11,200	25,550	146,050	447,900	2,599,350
Connecticut	112,900	114,600	250,800	303,650	365,500	2,580,100
New Hampshire	3,250		15,850	68,300	229,200	1,733,050
Rhode Island	18,400	7,900	40,100	72,000	203,100	1,153,850
Maryland	69,950	42,600	81,200	163,350	96,900	740,405
New York	13,650	18,000	23,750	30,800	121,900	688,550
Pennsylvania	4,450	7,550	39,700	52,600	71,400	451,500
Missouri	1,366	365		1,568	11,750	370,547
Virginia	15,200	28,855	34,800	83,273	56,446	277,980
New Jersey	9,800	20,950	10,400	24,750	43,950	245,000
Illinois	829	187		851	17,626	219,922
Indiana	392	106		851	14,170	207,580
Maine			900	18,650	27,050	182,600
Nebraska	650	183		403	2,074	127,191
Tennessee	2,616	398		3,930	66,928	104,219
Iowa	146	43		67	1,728	102,140
Kentucky	700	230		1,770	19,058	75,834
Ohio	123	24		67	1,728	65,712
Arkansas	336	125		538	4,838	51,094
Oklahoma	492	144		515	2,419	35,669
Kansas	269	53		112	1,037	35,456
South Dakota	123	24			1,037	27,060
Vermont					50	21,750
North Carolina	2,134	14	6,950	634	6,082	16,864
Minnesota						7,068
Alabama	11	10		67	1,382	1,476
Mississippi	11	14		112	691	1,319
California						1,250
Texas	246	67		45		886
South Carolina	34	38		90	346	508
North Dakota						74
Wisconsin						64
Georgia		5		23		28
Colorado	11	10				23
Total	1,135,389	1,435,595	1,857,450	2,308,766	3,031,690	20,763,519
Percent of each month's broiler receipts to 12 months' total broiler receipts	5	7	9	11	15	100
Percent of each month's broiler receipts to total live poultry receipts for the same month	9	14	16	17	27	13

TABLE 17.—Live poultry: Broiler receipts by freight at New York City, by months and State of origin—June 1934 to May 1935

State of origin	1934						
	June	July	August	Septem- ber	October	Novem- ber	Decem- ber
Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Alabama	9,408	24,992	10,342	320	34	6	147
Arkansas		1,250					
California							
Colorado						2	
Georgia							
Illinois	35,280	96,219	62,701	4,576	624	184	845
Indiana	37,632	86,222	62,701	4,160	605	197	544
Iowa	17,875	52,483	27,795	1,472	192	51	288
Kansas	6,115	12,496	14,221	864	101	34	154
Kentucky	20,227	23,743	6,464	256	67	50	269
Maryland					5		
Minnesota	1,882	3,749	1,293	96	24	5	19
Mississippi	470					8	13
Missouri	47,981	178,693	121,523	5,600	700	163	838
Nebraska	16,935	62,480	41,370	1,984	408	109	595
North Carolina							
North Dakota				64	5	5	
Ohio	11,290	28,741	21,331	1,728	206	112	262
Oklahoma	8,467	17,494	5,818	128	19	19	154
South Carolina							
South Dakota	3,293	11,246	10,342	640	125	38	192
Tennessee	15,523	12,496	1,293		5	58	172
Texas	470			32			26
Virginia						30	26
Wisconsin				64			
Total	232,848	612,304	387,194	21,984	3,120	1,085	4,544
Percent of total	16	43	27	2			

State of origin	1935					Total
	January	February	March	April	May	
Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Alabama	11	10		67	1,382	1,476
Arkansas	336	125		538	4,838	51,094
California						1,250
Colorado	11	10				23
Georgia		5		23		28
Illinois	829	187		851	17,626	219,922
Indiana	392	106		851	14,170	207,580
Iowa	146	43		67	1,728	102,140
Kansas	269	53		112	1,037	35,456
Kentucky	650	230		1,770	19,008	72,734
Maryland						5
Minnesota						7,068
Mississippi	11	14		112	691	1,319
Missouri	1,366	365		1,568	11,750	370,547
Nebraska	650	183		403	2,074	127,191
North Carolina	34	14		134	1,382	1,564
North Dakota						74
Ohio	123	24		67	1,728	65,612
Oklahoma	492	144		515	2,419	35,669
South Carolina	34	38		90	346	508
South Dakota	123	24			1,037	27,060
Tennessee	616	398		3,830	56,678	91,069
Texas	246	67		45		886
Virginia		5		23	346	430
Wisconsin						64
Total	6,339	2,045		11,066	138,240	1,420,769
Percent of total	1			1	10	

Source: Compiled from the monthly Live Poultry Market Report, Bureau of Agricultural Economics, U. S. Department of Agriculture.

TABLE 18.—*Live poultry: Express and truck receipts of broilers at New York City, by months and State of origin—June 1934 to May 1935*

State of origin	1934						
	June	July	August	Septem- ber	October	Novem- ber	Decem- ber
Connecticut	<i>Pounds</i> 337,000	<i>Pounds</i> 268,050	<i>Pounds</i> 289,700	<i>Pounds</i> 134,650	<i>Pounds</i> 124,400	<i>Pounds</i> 137,050	<i>Pounds</i> 141,800
Delaware	848,400	399,450	386,500	133,150	196,950	206,650	544,000
Kentucky			250	2,000	650		100
Massachusetts	741,550	681,000	365,700	130,050	4,950	14,350	17,000
Maine	44,150	58,700	28,050	5,100			
Maryland	71,300	62,500	56,650	33,850	15,550	16,100	30,450
North Carolina			1,050				
New Hampshire	511,900	440,200	390,800	53,950	13,850	5,100	650
New Jersey	64,100	30,800	6,400	14,800	700	1,950	16,400
New York	230,700	110,550	57,450	39,650	9,000	12,850	20,250
Ohio			100				
Pennsylvania	39,200	84,200	95,950	33,200	14,050	4,750	4,450
Rhode Island	298,100	194,600	228,350	69,600	6,500	6,400	8,800
Tennessee	200					600	
Vermont	2,550	7,250	8,300	3,200	350	50	
Virginia	3,350	5,850	20,150	19,000	6,000	4,400	600
Total	3,192,500	2,343,150	1,935,400	672,200	392,950	410,250	785,100
Percent of total	17	12	10	3	2	2	4

State of origin	1935					Total
	January	February	March	April	May	
Connecticut	<i>Pounds</i> 112,900	<i>Pounds</i> 114,600	<i>Pounds</i> 250,800	<i>Pounds</i> 303,650	<i>Pounds</i> 305,500	<i>Pounds</i> 2,580,100
Delaware	863,250	1,181,900	1,327,450	1,333,700	1,215,400	8,637,400
Kentucky	50				50	3,100
Massachusetts	14,050	11,200	25,550	146,050	447,900	2,599,350
Maine			900	18,650	27,050	182,600
Maryland	69,950	42,600	81,200	103,350	96,900	740,400
North Carolina	2,100		6,950	500	4,700	15,300
New Hampshire	3,250		15,850	68,300	229,200	1,733,050
New Jersey	9,800	20,950	10,400	24,750	43,950	245,000
New York	13,650	18,000	23,750	30,800	121,900	688,550
Ohio						100
Pennsylvania	4,450	7,550	39,700	52,600	71,400	451,500
Rhode Island	18,400	7,900	40,100	72,000	203,100	1,153,850
Tennessee	2,000			100	10,250	13,150
Vermont					50	21,750
Virginia	15,200	28,850	34,800	83,250	56,100	277,550
Total	1,129,050	1,433,550	1,857,450	2,297,700	2,893,450	19,342,750
Percent of total	6	7	10	12	15	

Source: Compiled from U. S. Department of Agriculture, Bureau of Agricultural Economics, Live Poultry Inspection Certificates.

TABLE 19.—*Live poultry: Total broiler receipts at New York City, by months and State of origin, for the period June 1934 to May 1935*

State of origin	1934						
	June	July	August	Septem- ber	October	Novem- ber	Decem- ber
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Alabama						6	
Arkansas	9,408	24,992	10,342	320	34	14	147
California		1,250					
Colorado						2	
Connecticut	337,000	268,050	289,700	134,650	124,400	137,050	141,800
Delaware	848,400	399,450	386,500	133,150	196,950	206,650	544,600
Illinois	35,280	96,219	62,701	4,576	624	184	845
Indiana	37,632	86,222	62,701	4,160	605	197	544
Iowa	17,875	52,483	27,795	1,472	192	51	288
Kansas	6,115	12,496	14,221	864	101	34	154
Kentucky	20,227	23,743	6,714	2,256	717	50	369
Maine	44,150	58,700	28,050	5,100			
Maryland	71,300	62,500	56,650	33,850	15,555	16,100	30,450
Massachusetts	741,550	681,000	365,700	130,050	4,950	14,350	17,000
Minnesota	1,882	3,749	1,293	96	24	5	19
Mississippi	470					8	13
Missouri	47,981	178,693	121,523	5,600	700	163	838
Nebraska	16,935	62,480	41,370	1,984	408	109	595
New Hampshire	511,900	440,200	390,800	53,950	13,850	5,100	650
New Jersey	64,100	30,800	6,400	14,800	700	1,950	16,400
New York	230,700	110,550	57,450	39,650	9,000	12,850	20,250
North Carolina			1,050				
North Dakota				64	5	5	
Ohio	11,290	28,741	21,431	1,728	206	112	262
Oklahoma	8,467	17,494	5,818	128	19	19	154
Pennsylvania	39,200	84,200	95,950	33,200	14,050	4,750	4,450
Rhode Island	298,100	194,600	228,350	69,600	6,500	6,400	8,800
South Dakota	3,293	11,246	10,342	640	125	38	192
Tennessee	15,723	12,496	1,293		5	658	172
Texas	470			32			26
Vermont	2,550	7,250	8,300	3,200	350	50	
Virginia	3,350	5,850	20,150	19,000	6,000	4,430	626
Wisconsin				64			
Total	3,425,348	2,955,454	2,322,594	694,184	396,070	411,335	789,644
Percent of each month's broiler receipts to 12 months' total broiler receipts	17	14	11	3	2	2	4
Percent of each month's broiler receipts to 12 months' total live poultry receipts	2	2	1	1			1
Percent of each month's broiler receipts to total live poultry receipts for the same month	25	24	16	4	3	3	6

TABLE 19.—*Live poultry: Total broiler receipts at New York City, by months and State of origin, for the period June 1934 to May 1935—Continued*

State of origin	1935					Total
	January	February	March	April	May	
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Alabama	11	10		67	1,382	1,476
Arkansas	336	125		538	4,838	51,094
California						1,250
Colorado	11	10				23
Connecticut	112,900	114,600	250,800	303,650	365,500	2,580,100
Delaware	863,250	1,181,900	1,327,450	1,333,700	1,215,400	8,637,400
Georgia		5		23		28
Illinois	829	187		851	17,626	219,922
Indiana	392	106		851	14,170	207,580
Iowa	146	43		67	1,728	102,140
Kansas	269	53		112	1,037	35,456
Kentucky	700	230		1,770	19,058	75,834
Maine			900	18,650	27,050	182,600
Maryland	69,950	42,600	81,200	163,350	96,900	740,405
Massachusetts	14,050	11,200	25,550	146,050	447,900	2,599,350
Minnesota						7,068
Mississippi	11	14		112	691	1,319
Missouri	1,366	365		1,568	11,750	370,547
Nebraska	650	183		403	2,074	127,191
New Hampshire	3,250		15,850	68,300	229,200	1,733,050
New Jersey	9,800	20,950	10,400	24,750	43,950	245,000
New York	13,650	18,000	23,750	30,800	121,900	688,550
North Carolina	2,134	14	6,950	634	6,082	16,864
North Dakota						74
Ohio	123	24		67	1,728	65,712
Oklahoma	492	144		515	2,419	35,669
Pennsylvania	4,450	7,550	39,700	52,600	71,400	451,500
Rhode Island	18,400	7,900	40,100	72,000	203,100	1,153,850
South Carolina	34	38		90	346	508
South Dakota	123	24			1,037	27,060
Tennessee	2,616	398		3,930	66,928	104,219
Texas	246	67		45		886
Vermont					50	21,750
Virginia	15,200	28,855	34,800	83,273	56,446	277,980
Wisconsin						64
Total	1,135,389	1,435,595	1,857,450	2,308,766	3,031,690	20,763,519
Percent of each month's broiler receipts to 12 months' total broiler receipts	5	7	9	11	15	100
Percent of each month's broiler receipts to 12 months' total live poultry receipts	1	1	1	1	2	13
Percent of each month's broiler receipts to total live poultry receipts for the same month	9	14	16	17	27	13



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